Access DB# 77664

SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: Lynda Guo Examiner #: 79756 Date: 10/10/02
Art Unit: 1651 Phone Number 30-605-1200 Serial Number: 09/806,983
Mail Box and Bldg/Room Location: CM1-3B19 Results Format Preferred (circle): PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.

****

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: Method of determining alkaline phosphatase

Inventors (please provide full names): _____

_____

Earliest Priority Filing Date: _____

For Sequence Searches Only *Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.*

Jan Delaval
Reference Librarian
Biotechnology & Chemical Library
CM1 1E07 – 703-308-4498
jan.delaval@uspto.gov

****

STAFF USE ONLY	Type of Search	Vendors and cost where applicable
Searcher: Jan	NA Sequence (#)	STN ✓
Searcher Phone #: 4498	AA Sequence (#)	Dialog
Searcher Location:	Structure (#)	Questel/Orbit
Date Searcher Picked Up: 10/16/02	Bibliographic ✓	Dr.Link
Date Completed: 10/16/02	Litigation	Lexis/Nexis
Searcher Prep & Review Time:	Fulltext	Sequence Systems
Clerical Prep Time: 10	Patent Family	WWW/Internet
Online Time: +45	Other	Other (specify)

PTO-1590 (8-01)

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STRUCTURE FILE UPDATES:    9 OCT 2002  HIGHEST RN 460312-12-3
DICTIONARY FILE UPDATES:   9 OCT 2002  HIGHEST RN 460312-12-3

TSCA INFORMATION NOW CURRENT THROUGH MAY 20, 2002

  Please note that search-term pricing does apply when
  conducting SmartSELECT searches.

Crossover limits have been increased.  See HELP CROSSOVER for details.

Experimental and calculated property data are now available.  See HELP
PROPERTIES for more information.  See STNote 27, Searching Properties
in the CAS Registry File, for complete details:
http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf

=> d l1 ide can

L1   ANSWER 1 OF 1  REGISTRY  COPYRIGHT 2002 ACS
RN   100-02-7  REGISTRY
CN   Phenol, 4-nitro- (9CI)  (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN   Phenol, p-nitro- (8CI)
OTHER NAMES:
CN   1-Hydroxy-4-nitrobenzene
CN   4-Hydroxy-1-nitrobenzene
CN   4-Hydroxynitrobenzene
CN   4-Nitrophenol
CN   Niphen
CN   p-Hydroxynitrobenzene
CN   p-Nitrophenol
FS   3D CONCORD
MF   C6 H5 N O3
CI   COM
LC   STN Files:   AGRICOLA, ANABSTR, AQUIRE, BEILSTEIN*, BIOBUSINESS, BIOSIS,
       BIOTECHNO, CA, CABA, CANCERLIT, CAOLD, CAPLUS, CASREACT, CBNB, CEN,
       CHEMCATS, CHEMINFORMRX, CHEMLIST, CIN, CSCHEM, CSNB, DDFU, DETHERM*,
       DRUGU, EMBASE, GMELIN*, HODOC*, HSDB*, IFICDB, IFIPAT, IFIUDB, IPA,
       MEDLINE, MRCK*, NIOSHTIC, PDLCOM*, PIRA, PROMT, RTECS*, SPECINFO,
       SYNTHLINE, TOXCENTER, ULIDAT, USPAT2, USPATFULL, VETU, VTB
         (*File contains numerically searchable property data)
     Other Sources:   DSL**, EINECS**, TSCA**
         (**Enter CHEMLIST File for up-to-date regulatory information)
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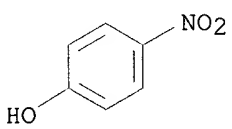


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**PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT**

             9496 REFERENCES IN FILE CA (1962 TO DATE)
```

Jan Delaval
Reference Librarian
Biotechnology & Chemical Library
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jan.delaval@uspto.gov

176 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
9520 REFERENCES IN FILE CAPLUS (1962 TO DATE)
9 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

REFERENCE 1: 137:223998

REFERENCE 2: 137:222464

REFERENCE 3: 137:221501

REFERENCE 4: 137:221244

REFERENCE 5: 137:219195

REFERENCE 6: 137:218349

REFERENCE 7: 137:216575

REFERENCE 8: 137:212754

REFERENCE 9: 137:212163

REFERENCE 10: 137:212140

=> d l12 ide can

L12 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2002 ACS
RN **9001-78-9** REGISTRY
CN Phosphatase, alkaline (9CI) (CA INDEX NAME)
OTHER NAMES:
CN AIP
CN Alkaline phenyl phosphatase
CN Alkaline phosphatase
CN alkaline phosphatase
CN Alkaline phosphohydrolase
CN Alkaline phosphomonoesterase
CN E.C. 3.1.3.1
CN Ostase
MF Unspecified
CI MAN
LC STN Files: ADISNEWS, AGRICOLA, ANABSTR, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CABA, CAPLUS, CASREACT, CBNB, CEN, CHEMCATS, CHEMINFORMRX, CHEMLIST, CIN, CSCHEM, CSNB, EMBASE, IFICDB, IFIPAT, IFIUDB, IPA, MEDLINE, MSDS-OHS, NAPRALERT, NIOSHTIC, PIRA, PROMT, TOXCENTER, ULIDAT, USPAT2, USPATFULL
Other Sources: EINECS**, TSCA**
(**Enter CHEMLIST File for up-to-date regulatory information)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
28754 REFERENCES IN FILE CA (1962 TO DATE)
1009 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
28811 REFERENCES IN FILE CAPLUS (1962 TO DATE)

REFERENCE 1: 137:222138

REFERENCE 2: 137:222124

REFERENCE 3: 137:221968

REFERENCE 4: 137:221961

REFERENCE 5: 137:221950

REFERENCE 6: 137:221469

REFERENCE 7: 137:216261

REFERENCE 8: 137:216231

REFERENCE 9: 137:214897

REFERENCE 10: 137:214810

=> fil hcaplus
FILE 'HCAPLUS' ENTERED AT 09:55:23 ON 10 OCT 2002
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FILE COVERS 1907 - 10 Oct 2002 VOL 137 ISS 15
FILE LAST UPDATED: 9 Oct 2002 (20021009/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

CAS roles have been modified effective December 16, 2001. Please check your SDI profiles to see if they need to be revised. For information on CAS roles, enter HELP ROLES at an arrow prompt or use the CAS Roles thesaurus (/RL field) in this file.

=> d all tot l18

L18 ANSWER 1 OF 18 HCAPLUS COPYRIGHT 2002 ACS
AN 2001:663288 HCAPLUS
DN 136:306154
TI A membrane separator/bioreactor coupled with **absorbance** measurement for detection of Escherichia coli O157:H7
AU Liu, Yongcheng; Ye, Jianming; Li, Yanbin
CS Department of Biological & Agricultural Engineering, University of Arkansas, Fayetteville, AR, 72701, USA
SO Journal of Rapid Methods and Automation in Microbiology (2001), 9(2), 85-96
CODEN: JRMMEE; ISSN: 1060-3999
PB Food & Nutrition Press, Inc.
DT Journal
LA English
CC 9-1 (Biochemical Methods)
Section cross-reference(s): 10
AB A membrane separator/bioreactor system was developed for rapid detection of Escherichia coli O157:H7. The system consisted of a membrane separator/bioreactor (0.45 .mu.m of the pore size) to sep. the complexes of E. coli O157:H7 and **alk. phosphatase**-conjugated anti-E. coli O157:H7 antibodies from the sample and to produce p-

nitrophenol through the enzymic reaction (p-nitrophenyl phosphate hydrolysis), and an optical detector for measuring the p-**nitrophenol absorbance** at 400 nm. The membrane material and the flow rate of the substrate for the enzymic hydrolysis had great effects on the **absorbance** of p-**nitrophenol**. The optimum conditions for the enzymic reaction were detd. as 1.0 M Tris buffer, pH 8.0, and 0.1 M MgCl2 for this system. The detection range was 104 .apprx. 107 CFU/mL with a relative std. deviation of 4.3.apprx.14.2%, and whole procedure could be completed in 50 min without any enrichment and culture. Other bacteria such as Salmonella typhimurium, Campylobacter jejuni and Listeria monocytogenes had no significant interference with the detection of E. coli O157:H7.

ST membrane separator bioreactor coupled **absorbance** detection Escherichia coli

IT Hydrolysis
(enzymic; membrane separator/bioreactor coupled with **absorbance** measurement for detection of Escherichia coli O157:H7)

IT Bioreactors
Campylobacter jejuni
Escherichia coli
Flow
Hydrolysis
Listeria monocytogenes
Membranes, nonbiological
Optical detectors
Pore size
Salmonella typhimurium
Separators
UV and visible spectroscopy
pH
(membrane separator/bioreactor coupled with **absorbance** measurement for detection of Escherichia coli O157:H7)

IT Antibodies
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(membrane separator/bioreactor coupled with **absorbance** measurement for detection of Escherichia coli O157:H7)

IT **100-02-7**, p-**Nitrophenol**, analysis
RL: ANT (Analyte); ARU (Analytical role, unclassified); ANST (Analytical study)
(membrane separator/bioreactor coupled with **absorbance** measurement for detection of Escherichia coli O157:H7)

IT 330-13-2, p-Nitrophenyl phosphate **9001-78-9, Alkaline phosphatase**
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(membrane separator/bioreactor coupled with **absorbance** measurement for detection of Escherichia coli O157:H7)

IT 77-86-1, Tris buffer 7786-30-3, Magnesium chloride (MgCl2), analysis
RL: ARU (Analytical role, unclassified); ANST (Analytical study)
(membrane separator/bioreactor coupled with **absorbance** measurement for detection of Escherichia coli O157:H7)

RE.CNT 22 THERE ARE 22 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

(1) BalcAo, V; Biotechnol Bioeng 1998, V60, P114 HCAPLUS
(2) Bommarius, A; Chirality in Industry 1992, P371 HCAPLUS
(3) Brookes, P; Appl Microbiol Biotechnol 1993, V39, P764 HCAPLUS
(4) Brookes, P; Biotechnol Prog 1994, V10, P65 HCAPLUS
(5) Doig, S; Biotechnol Bioeng 1998, V58, P587 HCAPLUS
(6) Doig, S; Biotechnol Bioeng 1999, V63, P601 HCAPLUS
(7) Kragl, U; Angew Chem Int ed Engl 1991, V30, P827
(8) LEonard, D; Biotechnol Prog 1998, V14, P680 HCAPLUS
(9) Liese, A; Biotechnol Bioeng 1996, V51, P544 HCAPLUS
(10) Liu, Y; J Chem Tech Biotechnol in review 2001
(11) Liu, Y; Sensors & Actuators, B 2001, V72/3, P214

(12) Livingston, A; Biotechnol Bioeng 1993, V41, P915 HCAPLUS
(13) Livingston, A; Biotechnol Bioeng 1993, V41, P927 HCAPLUS
(14) Livingston, A; J Chem Tech Biotechnol 1994, V60, P117 HCAPLUS
(15) Malcata, F; Biotechnol Bioeng 1992, V39, P1097 HCAPLUS
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(20) Salagnad, C; Biotechnol Prog 1997, V13, P810 HCAPLUS
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(22) Yamane, T; J Jpn Oil Chem Soc 1986, P10 HCAPLUS

L18 ANSWER 2 OF 18 HCAPLUS COPYRIGHT 2002 ACS
AN 2000:707375 HCAPLUS
DN 133:263515
TI Method and device for detecting analytes in fluids
IN Carpenter, Charles R.
PA Idexx Laboratories, Inc., USA
SO PCT Int. Appl., 115 pp.
CODEN: PIXXD2
DT Patent
LA English
IC G01N033-558
CC 9-1 (Biochemical Methods)
Section cross-reference(s): 17, 79, 80
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2000058730	A1	20001005	WO 2000-US7965	20000324
	WO 2000058730	C2	20020711		
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	EP 1082614	A1	20010314	EP 2000-919643	20000324
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
	BR 2000006058	A	20010320	BR 2000-6058	20000324
PRAI	US 1999-277715	A	19990326		
	US 1999-439024	A	19991112		
	US 2000-525151	A	20000314		
	WO 2000-US7965	W	20000324		

AB A disposable, dry chem. anal. system is disclosed which is broadly useful for the detection of a variety of analytes present in biol. fluids such as whole blood, serum, plasma, urine and cerebral spinal fluid. The invention discloses the use of the reaction interface that forms between two liqs. converging from opposite directions within a bibulous material. The discovery comprises a significant improvement over prior art disposable, anal. reagent systems in that the detectable reactant zone is visually distinct and sep. from the unreacted reagents allowing for the use of reaction indicators exhibiting only minor changes as well as extremely high concns. of reactants. In addn., staged, multiple reagents can be incorporated. Whole blood can be used as a sample without the need for sep. cell sepg. materials. Finally, the invention is useful for the detection of analytes in a broad variety of materials such as milk, environmental samples, and other samples contg. target analytes. A test strip to det. glucose in a sample of whole blood was prepd. from a HEMASEP L membrane adhered to a plastic backing and contg. Trinder reagent dried

at one end. Water was added to the reagent side and whole blood sample was simultaneously added to the other side. The two fluids flowed towards each other, eventually yielding four distinct bands on the strip: a red blood cell band, a plasma band, a red/brown quinoneimine dye reaction product band (the reaction interface), and a band of unreacted Trinder reagent.

ST analysis app fluid flow; blood test strip Hemosep L membrane; glucose biosensor

IT Named reagents and solutions
RL: ARG (Analytical reagent use); DEV (Device component use); ANST (Analytical study); USES (Uses)
(Trinder's, in glucose detn. in whole blood; method and device for detecting analytes in fluids)

IT Peptides, biological studies
RL: ARG (Analytical reagent use); BPR (Biological process); BSU (Biological study, unclassified); DEV (Device component use); ANST (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses)
(abtides, conjugates with enzymes; method and device for detecting analytes in fluids)

IT Polyesters, uses
RL: DEV (Device component use); USES (Uses)
(as backing material; method and device for detecting analytes in fluids)

IT Membranes, nonbiological
(as fluid transport material; method and device for detecting analytes in fluids)

IT Named reagents and solutions
RL: ARG (Analytical reagent use); DEV (Device component use); ANST (Analytical study); USES (Uses)
(biuret reagent, in total protein detn.; method and device for detecting analytes in fluids)

IT Flow
(capillary; method and device for detecting analytes in fluids)

IT Albumins, analysis
RL: ANT (Analyte); FMU (Formation, unclassified); ANST (Analytical study); FORM (Formation, nonpreparative)
(complexes, with dye, formation of, in albumin detn.; method and device for detecting analytes in fluids)

IT Receptors
RL: ARG (Analytical reagent use); BPR (Biological process); BSU (Biological study, unclassified); DEV (Device component use); ANST (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses)
(conjugates, with enzyme; method and device for detecting analytes in fluids)

IT Enzymes, uses
RL: ARG (Analytical reagent use); DEV (Device component use); ANST (Analytical study); USES (Uses)
(conjugates, with monoclonal antibody or receptor protein; method and device for detecting analytes in fluids)

IT Erythrocyte
(fluid transport material capable of sepg., from whole blood; method and device for detecting analytes in fluids)

IT Immunoglobulins
RL: ARG (Analytical reagent use); BPR (Biological process); BSU (Biological study, unclassified); DEV (Device component use); ANST (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses)
(fragments, conjugates with enzyme; method and device for detecting analytes in fluids)

IT Reagents
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(liq.; method and device for detecting analytes in fluids)

IT **Absorption** spectroscopy
Analytical apparatus

Blood analysis
Calibration
Electric conductivity
Fluids
Fluorometry
Luminescence spectroscopy
Reflection spectroscopy
Sensors
Spectroscopy
(method and device for detecting analytes in fluids)

IT Albumins, analysis
Proteins, general, analysis
RL: ANT (Analyte); ANST (Analytical study)
(method and device for detecting analytes in fluids)

IT Glass fibers, uses
RL: DEV (Device component use); USES (Uses)
(method and device for detecting analytes in fluids)

IT Antibodies
RL: ARG (Analytical reagent use); BPR (Biological process); BSU (Biological study, unclassified); DEV (Device component use); ANST (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses)
(monoclonal, conjugates, with enzyme; method and device for detecting analytes in fluids)

IT Antibodies
RL: ARG (Analytical reagent use); BPR (Biological process); BSU (Biological study, unclassified); DEV (Device component use); ANST (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses)
(peptide analogs, conjugates with enzymes; method and device for detecting analytes in fluids)

IT Antigens
RL: ANT (Analyte); BPR (Biological process); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study); PROC (Process)
(peptides binding to, conjugates with enzyme; method and device for detecting analytes in fluids)

IT Imines
RL: ANT (Analyte); FMU (Formation, unclassified); ANST (Analytical study); FORM (Formation, nonpreparative)
(quinone, formation of, in glucose detn.; method and device for detecting analytes in fluids)

IT 9002-86-2, Polyvinylchloride 25038-59-9, Mylar, uses
RL: DEV (Device component use); USES (Uses)
(as backing material; method and device for detecting analytes in fluids)

IT 57-13-6, Urea, analysis
RL: ANT (Analyte); ANST (Analytical study)
(blood nitrogen; method and device for detecting analytes in fluids)

IT **100-02-7**, p-**Nitrophenol**, analysis
RL: ANT (Analyte); FMU (Formation, unclassified); ANST (Analytical study); FORM (Formation, nonpreparative)
(formation of, in **alk. phosphatase** detn.; method and device for detecting analytes in fluids)

IT 147704-92-5, Azobilirubin
RL: ANT (Analyte); FMU (Formation, unclassified); ANST (Analytical study); FORM (Formation, nonpreparative)
(formation of, in bilirubin detn.; method and device for detecting analytes in fluids)

IT 70233-88-4
RL: ANT (Analyte); FMU (Formation, unclassified); ANST (Analytical study); FORM (Formation, nonpreparative)
(formation of, in calcium detn.; method and device for detecting analytes in fluids)

IT 13280-60-9, 5-Amino-2-nitrobenzoic acid

RL: ANT (Analyte); FMU (Formation, unclassified); ANST (Analytical study); FORM (Formation, nonpreparative)
(formation of, in .gamma.-glutamyl transferase detn.; method and device for detecting analytes in fluids)

IT 330-13-2, p-**Nitrophenol** phosphate
RL: ARG (Analytical reagent use); DEV (Device component use); ANST (Analytical study); USES (Uses)
(in T4 hapten detn.; method and device for detecting analytes in fluids)

IT 76-60-8, Bromocresol green
RL: ARG (Analytical reagent use); DEV (Device component use); ANST (Analytical study); USES (Uses)
(in albumin detn. in fetal calf serum; method and device for detecting analytes in fluids)

IT 1668-00-4, Arsenazo III
RL: ARG (Analytical reagent use); DEV (Device component use); ANST (Analytical study); USES (Uses)
(in calcium detn. in fetal calf serum; method and device for detecting analytes in fluids)

IT 9004-70-0, Nitrocellulose 138636-78-9, SUPOR 192662-61-6, CYTOSEP 298220-02-7, Hemasep L 298220-38-9, Hemasep V
RL: ARU (Analytical role, unclassified); DEV (Device component use); ANST (Analytical study); USES (Uses)
(membrane as fluid transport material; method and device for detecting analytes in fluids)

IT 50-99-7, D-Glucose, analysis 57-88-5, Cholesterol, analysis 60-27-5, Creatinine 69-93-2, Uric acid, analysis 635-65-4, Bilirubin, analysis 7439-95-4, Magnesium, analysis 7440-70-2, Calcium, analysis 7664-41-7, Ammonia, analysis 7723-14-0, Phosphorus, analysis 9000-86-6, Alanine aminotransferase 9000-92-4, Amylase 9000-97-9, Aspartate aminotransferase 9001-15-4, Creatine kinase 9001-60-9, Lactate dehydrogenase 9001-62-1, Lipase **9001-78-9** 9046-27-9, .gamma.-Glutamyl transferase
RL: ANT (Analyte); ANST (Analytical study)
(method and device for detecting analytes in fluids)

IT 51-48-9D, Thyroxine, conjugates with bovine serum albumin, complexes with anti-T4 antibody-**alk. phosphatase** conjugates
RL: ANT (Analyte); BPR (Biological process); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study); PROC (Process)
(method and device for detecting analytes in fluids)

IT **9001-78-9D**, conjugates with monoclonal antibody 9003-99-0D, Peroxidase, conjugates with monoclonal antibody 9031-11-2D, .beta.-Galactosidase, conjugates with monoclonal antibody
RL: ARG (Analytical reagent use); DEV (Device component use); ANST (Analytical study); USES (Uses)
(method and device for detecting analytes in fluids)

RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

(1) Bernstein, D; US 5824268 A 1998 HCAPLUS
(2) Chandler, H; WO 9423300 A 1994 HCAPLUS
(3) Idexx Lab Inc; WO 9303176 A 1993 HCAPLUS
(4) Malick, A; US 5998221 A 1999 HCAPLUS
(5) Patton, W; JOURNAL OF CHROMATOGRAPHY A 1995, V698(1), P55

L18 ANSWER 3 OF 18 HCAPLUS COPYRIGHT 2002 ACS
AN 2000:605593 HCAPLUS
DN 134:26805
TI Exploiting Polymerase Promiscuity: A Simple Colorimetric RNA Polymerase Assay
AU Vassiliou, William; Epp, Jeffery B.; Wang, Bin-Bin; Del Vecchio, Alfred M.; Widlanski, Theodore; Kao, C. Cheng
CS Department of Biology, Indiana University, Bloomington, IN, 47405, USA

SO Virology (2000), 274(2), 429-437
CODEN: VIRLAX; ISSN: 0042-6822
PB Academic Press
DT Journal
LA English
CC 7-1 (Enzymes)
AB We developed a convenient colorimetric assay for monitoring RNA synthesis from DNA-dependent RNA polymerases (DdRp) and viral RNA-dependent RNA polymerases (RdRp). ATP and GTP with a p-nitrophenyl moiety attached to the .gamma.-phosphate were synthesized (PNP-NTPs). These PNP-NTPs can be used for RNA synthesis by several RNA polymerases, including the RdRps from brome mosaic virus and bovine viral diarrhea virus and the DdRps from bacteriophage T7 and SP6. When the polymerase reactions were performed in the presence of **alk. phosphatase**, which digests the p-nitrophenylpyrophosphate side-product of phosphoryl transfer to the chromogenic p-nitrophenylate, an increase in **absorbance** at 405 nm was obsd. These nucleotide analogs were used in continuous colorimetric monitoring of polymerase activity. Furthermore, the PNP-NTPs were found to be stable and utilized by RNA polymerases in the presence of human plasma. This simple colorimetric polymerase assay can be performed in a std. lab. spectrophotometer and will be useful in screens for inhibitors of viral RNA synthesis. (c) 2000 Academic Press.
ST RNA polymerase detn colorimetric assay nitrophenyl nucleotide substrate prepn
IT Colorimetry
(prepn. of p-nitrophenyl derivs. of ATP and GTP for a simple colorimetric RNA polymerase assay)
IT **9001-78-9**
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(coupled assay; prepn. of p-nitrophenyl derivs. of ATP and GTP for a simple colorimetric RNA polymerase assay)
IT 9014-24-8, DNA-dependent RNA polymerase 9026-28-2, RNA-dependent RNA polymerase
RL: ANT (Analyte); ANST (Analytical study)
(prepn. of p-nitrophenyl derivs. of ATP and GTP for a simple colorimetric RNA polymerase assay)
IT 312331-42-3 312331-43-4 312331-44-5
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(prepn. of p-nitrophenyl derivs. of ATP and GTP for a simple colorimetric RNA polymerase assay)
IT 62441-22-9P 311802-38-7P
RL: ARG (Analytical reagent use); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); USES (Uses)
(prepn. of p-nitrophenyl derivs. of ATP and GTP for a simple colorimetric RNA polymerase assay)
IT **100-02-7**, p-**Nitrophenol**, reactions 4691-96-7 61773-63-5
RL: RCT (Reactant); RACT (Reactant or reagent)
(prepn. of p-nitrophenyl derivs. of ATP and GTP for a simple colorimetric RNA polymerase assay)
RE.CNT 22 THERE ARE 22 CITED REFERENCES AVAILABLE FOR THIS RECORD
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(22) Zhong, W; J Virol 1998, V72, P9365 HCAPLUS

L18 ANSWER 4 OF 18 HCAPLUS COPYRIGHT 2002 ACS
AN 1998:664414 HCAPLUS
DN 130:11820
TI Michaelis-Menten analysis of **alkaline phosphatase** by capillary electrophoresis using plug-plug reaction
AU Xu, Yan; Liu, Xuhui; Ip, Michael P. C.
CS Department of Chemistry, Cleveland State University, Cleveland, OH, 44115, USA
SO Journal of Liquid Chromatography & Related Technologies (1998), 21(18), 2781-2797
CODEN: JLCTFC; ISSN: 1082-6076
PB Marcel Dekker, Inc.
DT Journal
LA English
CC 7-1 (Enzymes)
AB This work evaluated the use of an **alk. phosphatase** plug, slowly migrating in a polyacrylamide-coated capillary filled with buffer/sol. polymer, to convert p-nitrophenylphosphate (which was injected into the capillary as a sep. plug, and migrated faster than the enzyme) to p-**nitrophenol** under a const. applied potential. The elution of assay components was monitored on-capillary at 230 nm. The initial reaction velocity of the enzyme-catalyzed reaction was estd. from the peak area ratio of the enzyme product to the internal std. Using the Lineweaver-Burk plots, an av. Michaelis const. (KM) for **alk. phosphatase** was calcd. to be 4.8 .+-. 0.3 mM (n = 4, CV = 6%). With the const. potential electrophoresis (8 kV/57 cm), the method had a detection limit of 4.4 .times. 10-5 IU for **alk. phosphatase** and a linear range up to 2.1 .times. 10-3 IU.
ST **alk phosphatase** detn capillary electrophoresis plug
IT Capillary electrophoresis
Michaelis constant
(Michaelis-Menten anal. of **alk. phosphatase** by capillary electrophoresis using a plug-plug reaction)
IT Gel electrophoresis
(capillary; Michaelis-Menten anal. of **alk. phosphatase** by capillary electrophoresis using a plug-plug reaction)
IT Capillary electrophoresis
(gel; Michaelis-Menten anal. of **alk. phosphatase** by capillary electrophoresis using a plug-plug reaction)
IT **9001-78-9**
RL: ANT (Analyte); ANST (Analytical study)
(Michaelis-Menten anal. of **alk. phosphatase** by capillary electrophoresis using a plug-plug reaction)
IT **100-02-7**, p-**Nitrophenol**, biological studies
RL: ANT (Analyte); BSU (Biological study, unclassified); MFM (Metabolic formation); **PRP (Properties)**; ANST (Analytical study); BIOL (Biological study); FORM (Formation, nonpreparative)
(Michaelis-Menten anal. of **alk. phosphatase** by capillary electrophoresis using a plug-plug reaction)
IT 330-13-2, p-Nitrophenylphosphate

RL: ARG (Analytical reagent use); BPR (Biological process); BSU (Biological study, unclassified); PRP (Properties); ANST (Analytical study); BIOL (Biological study); PROC (Process); USES (Uses)
(Michaelis-Menten anal. of **alk. phosphatase** by capillary electrophoresis using a plug-plug reaction)

RE.CNT 35 THERE ARE 35 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE
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(34) Xue, Q; J Chromatogr B 1996, V677, P233
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L18 ANSWER 5 OF 18 HCAPLUS COPYRIGHT 2002 ACS
AN 1997:746418 HCAPLUS
DN 128:1362
TI Differences in molar **absorptivity** of 4-NP with the reaction solution and apparatus affect ALP measurement
AU Huang, Wen Fang; Yang, Ming Qing; Zeng, Jie; Li, Liang Zhong; Cheng, Guang Rong
CS Dep. Clin. Lab., Sichuan Provincial People's Hosp., Sichuan, Peop. Rep. China
SO Rinsho Byori (1997), 45(11), 1098-1102
CODEN: RBYOAI; ISSN: 0047-1860
PB Rinsho Byori Kankokai
DT Journal
LA English
CC 7-1 (Enzymes)
AB We examd. the differences in molar **absorptivity** of 4-NP using different kits for ALP measurement and different instruments. The apparent molar **absorptivity** of 4-NP in the same reaction soln. detd. by 6 different instruments was 15.98, 16.72, 16.06, 17.00, 16.27, and 17.62, and that using 4 different reaction soln. kits for ALP with the

same instrument was 16.90, 17.38, 17.72, and 16.11. We measured ALP in 3 serum samples with 6 instruments using the same kit and in 12 serum samples with the same instrument using 4 kits. ALP activities measured using the same molar **absorptivity** value differed with the instrument ($p < 0.01$). However, those measured using the apparent molar **absorptivity** value for each instrument revealed no significant differences ($p < 0.05$). In conclusion, we suggest that std. material should be contained in each kit for enzyme measurement and the apparent .epsilon.' for each kit and instrument should be obtained to minimize the systematic error caused by using the same .epsilon. in different labs.

ST **alk phosphatase** serum detn nitrophenyl phosphate; molar **absorptivity alk phosphatase** substrate

IT Blood analysis
Molar **absorptivity**
(differences in molar **absorptivity** of 4-**nitrophenol** with reaction soln. and app. affect **alk. phosphatase** measurement)

IT **9001-78-9**
RL: ANT (Analyte); ANST (Analytical study)
(differences in molar **absorptivity** of 4-**nitrophenol** with reaction soln. and app. affect **alk. phosphatase** measurement)

IT 330-13-2, 4-Nitrophenyl phosphate
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(differences in molar **absorptivity** of 4-**nitrophenol** with reaction soln. and app. affect **alk. phosphatase** measurement)

IT **100-02-7**, 4-**Nitrophenol**, properties
RL: **PRP (Properties)**
(differences in molar **absorptivity** of 4-**nitrophenol** with reaction soln. and app. affect **alk. phosphatase** measurement)

L18 ANSWER 6 OF 18 HCAPLUS COPYRIGHT 2002 ACS
AN 1996:133810 HCAPLUS
DN 124:169372
TI **Adsorption** of immobilized **alkaline phosphatase** latex to substrate and product
AU Shi, Guo-Li; Ma, Jian-Biao; He, Bing-Lin
CS Institute of Polymer Chemistry, Nankai University, Tianjin, 300071, Peop. Rep. China
SO Gaodeng Xuexiao Huaxue Xuebao (1996), 17(2), 326-8
CODEN: KTHPDM; ISSN: 0251-0790
PB Gaodeng Jiaoyu Chubanshe
DT Journal
LA Chinese
CC 7-7 (Enzymes)
AB Aminated polystyrene latex beads were used in immobilized of calf intestinal **alk. phosphatase.** High **adsorption** of the immobilized-enzyme microbeads of substrate and product of enzyme, i.e. 4-nitrophenyl phosphate (pNPP) and 4-**nitrophenol** (pNP) was found. The **adsorption** phenomenon had effect in detn. of immobilized enzyme activity and the Km value of immobilized enzyme.

ST immobilized **alk phosphatase** aminated polystyrene substrate

IT **9001-78-9**
RL: BAC (Biological activity or effector, except adverse); BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(**adsorption** of immobilized **alk. phosphatase** latex to substrate and product)

IT **100-02-7**, 4-**Nitrophenol**, biological studies 330-13-2, 4-Nitrophenyl phosphate 9003-53-6D, Polystyrene, aminated

RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(**adsorption** of immobilized **alk. phosphatase** latex to substrate and product)

L18 ANSWER 7 OF 18 HCAPLUS COPYRIGHT 2002 ACS
AN 1992:608162 HCAPLUS
DN 117:208162
TI Portable simultaneous multiple analyte whole-blood analyzer for point-of-care testing
AU Schembri, Carol T.; Ostoich, Vladimir; Lingane, Paul J.; Burd, Tammy L.; Buhl, Steven N.
CS Abaxis, Sunnyvale, CA, 94089, USA
SO Clinical Chemistry (Washington, DC, United States) (1992), 38(9), 1665-70
CODEN: CLCHAU; ISSN: 0009-9147
DT Journal
LA English
CC 9-1 (Biochemical Methods)
AB The authors describe a portable clin. chem. analyzer for point-of-care measurements of multiple analytes in <10 min from .apprx. 40 .mu.L of whole blood (fingerstick or venous). Whole blood is applied directly to a 7.9-cm-diam., single-use plastic rotor contg. liq. diluent and .gtoreq.4-12 tests in the form of 1- to 2-mm-diam. dry reagent beads. The reagent/rotor is immediately placed in a portable instrument along with a ticket/label results card. As the instrument spins the rotor, capillary and rotational forces process the blood into dild. plasma, distribute the patient's dild. sample to cuvettes contg. the reagent beads, and mix the dild. sample with the reagents. The instrument monitors the chem. reactions optically at nine wavelengths; sample vol. and temp. are also measured optically. The calibration data for each reagent are read from a bar code on the periphery of each rotor. The instrument processes all the measurements to calc., store, print, and communicate the results. Each reagent/rotor contains an enzymic control that must be within a defined range before the results from that anal. are reported.
ST EPOC 2000 analyzer blood clin analysis
IT Hematocrit
(detn. of, portable simultaneous multiple analyte whole-blood analyzer for)
IT Enzymes
Proteins, analysis
RL: ANT (Analyte); ANST (Analytical study)
(detn. of, portable simultaneous multiple analyte whole-blood analyzer for)
IT Blood analysis
(portable simultaneous multiple analyte analyzer for)
IT Proteins, specific or class
RL: ANT (Analyte); ANST (Analytical study)
(C-reactive, detn. of, portable simultaneous multiple analyte whole-blood analyzer for)
IT Analysis
(clin., portable analyzer for)
IT 58-68-4, NADH
RL: ANST (Analytical study)
(**absorbance** of, detn. of, portable analyzer for clin. applications for)
IT **100-02-7**, p-**Nitrophenol**, properties
RL: **PRP (Properties)**
(**absorbance** of, detn. of, portable analyzer for clin. applications for)
IT 50-99-7, Glucose, analysis 57-13-6, Urea, analysis 57-88-5, Cholesterol, analysis 60-27-5, Creatinine 69-93-2, Uric acid, analysis 635-65-4, Bilirubin, analysis 7440-09-7, Potassium, analysis 9000-92-4, Amylase 9000-97-9, Aspartate aminotransferase

9001-78-9
RL: ANT (Analyte); ANST (Analytical study)
(detn. of, portable simultaneous multiple analyte whole-blood analyzer for)

L16 ANSWER 6 OF 16 HCAPLUS COPYRIGHT 2002 ACS
AN 1992:403702 HCAPLUS
DN 117:3702
TI An improved ELISA with linear sweep voltammetry detection
AU Tie, Feng; Pan, Aihua; Ru, Binggen; Wang, Wenqing; Hu, Yinhua
CS Dep. Tech. Phys., Peking Univ., Beijing, 100871, Peop. Rep. China
SO Journal of Immunological Methods (1992), 149(1), 115-20
CODEN: JIMMBG; ISSN: 0022-1759
DT Journal
LA English
CC 9-10 (Biochemical Methods)
AB An improved ELISA combined with linear sweep voltammetry detection of p-**nitrophenol** generated by an enzyme has been investigated in this study. p-**Nitrophenol**, produced from **alk. phosphatase** catalyzing p-nitrophenyl phosphate, yielded an oxidative peak at 1.06 V (vs. Ag/AgCl) with a wax-impregnated tubular graphite anode. Without sepn., the small three-electrode system was directly inserted in the well of an ELISA plate for detection. The detection limit for p-**nitrophenol** was 1 .times. 10-6 M, lower than that obtained by measuring the **absorbance** of p-**nitrophenol**. The feasibility of utilizing linear sweep voltammetry as a detection scheme was demonstrated by detg. metallothionein, granulocyte-colony stimulating factor and Xenopus laevis keratin using the above new system. The method was simple, reproducible and much more sensitive than traditional spectrophotometry.
ST ELISA linear sweep voltammetry **nitrophenol** detection; antigen ELISA linear sweep voltammetry
IT Antigens
Keratins
Metallothioneins
RL: ANT (Analyte); ANST (Analytical study)
(detection of, by **nitrophenol** detection with ELISA with linear sweep voltammetry detection)
IT Liver, composition
(metallothionein detection in, by ELISA with linear sweep voltammetry detection)
IT Immunoglobulins
RL: ANST (Analytical study)
(G, **alk. phosphatase** conjugate, in ELISA with linear sweep voltammetry detection)
IT Immunoassay
(enzyme-linked immunosorbent assay, **nitrophenol** detection by, for antigen detn., linear sweep voltammetry detection in)
IT Voltammetry
(linear-sweep, ELISA combined with, for **nitrophenol** detection, antigen detn. in relation to)
IT **100-02-7**, analysis
RL: ANT (Analyte); ANST (Analytical study)
(detection of, by ELISA with linear sweep voltammetry detection, antigen detn. in relation to)
IT 143011-72-7, Granulocyte colony-stimulating factor
RL: ANT (Analyte); ANST (Analytical study)
(detection of, by **nitrophenol** detection with ELISA with linear sweep voltammetry detection)
IT **9001-78-9D**, **Alkaline phosphatase**, IgG conjugate
RL: ANST (Analytical study)
(in ELISA with linear sweep voltammetry detection)

IT 330-13-2, p-Nitrophenyl phosphate
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with **alk. phosphatase**-IgG conjugate, in ELISA with linear sweep voltammetry detection)

L18 ANSWER 9 OF 18 HCAPLUS COPYRIGHT 2002 ACS
AN 1991:57862 HCAPLUS
DN 114:57862
TI Comparison of methods for following **alkaline phosphatase** catalysis: spectrophotometric versus amperometric detection
AU Thompson, Robert Q.; Barone, George C., III; Halsall, H. Brian; Heineman, William R.
CS Chem. Dep., Oberlin Coll., Oberlin, OH, 44074, USA
SO Analytical Biochemistry (1991), 192(1), 90-5
CODEN: ANBCA2; ISSN: 0003-2697
DT Journal
LA English
CC 7-1 (Enzymes)
AB An amperometric method for **alk. phosphatase** is described and compared to the most widely used spectrophotometric method. Catalytic hydrogenation of 4-nitrophenylphosphate (the substrate in the spectrophotometric method) gives 4-aminophenylphosphate (the substrate in the amperometric method). The latter substrate has the formula C6H6NO4PNa2.cntdot.5H2O and a Mr of 323. The Km for 4-aminophenylphosphate in 0.10M, pH 9.0. Tris buffer is 56 .mu.M, while it is 82 .mu.M for 4-nitrophenyl phosphate. The amperometric method has a detection limit of 7 nM for the product of the enzyme reaction, which is almost 20 times better than the spectrophotometric method. Similarly, with a 15-min reaction at room temp. and in a reaction vol. of 1.1 mL, 0.05 .mu.g/L **alk. phosphatase** can be detected by electrochem., almost an order of magnitude better than by **absorption** spectrophotometry. Amperometric detection is ideally suited for small-vol. and trace immunoassay.
ST **alk phosphatase** amperometry spectrophotometry assay comparison
IT Michaelis constant
(of **alk. phosphatase**, of intestine)
IT **100-02-7**, 4-**Nitrophenol**, analysis 123-30-8, 4-Aminophenol
RL: ANT (Analyte); ANST (Analytical study)
(detn. of, amperometric and spectrophotometric)
IT **9001-78-9**
RL: ANT (Analyte); ANST (Analytical study)
(detn. of, comparison of amperometric and spectrophotometric assays for)
IT 330-13-2, 4-Nitrophenylphosphate
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with **alk. phosphatase**, kinetics of, as substrate for amperometric assay)
IT 5337-17-7
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with **alk. phosphatase**, kinetics of, nitrophenylphosphate reaction comparison to, in amperometric assay)

L18 ANSWER 10 OF 18 HCAPLUS COPYRIGHT 2002 ACS
AN 1990:115042 HCAPLUS
DN 112:115042
TI Evaluation of the Hitachi 717 analyzer
AU Biosca, Carmen; Antoja, Felipe; Sierra, Cristina; Douezi, Helene; Macia, Magda; Alsina, Maria Jesus; Galimany, Roman
CS Serv. Anal. Clin., Hosp. Germans Trias i Pujol, Badalona, 08916, Spain
SO J. Autom. Chem. (1989), 11(4), 159-63
CODEN: JAUCD6; ISSN: 0142-0453

DT Journal
LA English
CC 9-1 (Biochemical Methods)
AB The selective multitest Boehringer Mannheim Hitachi 717 analyzer was evaluated according to the guidelines of the Comision de Instrumentacion de la Sociedad Espanola de Quimica Clinica and the European Committee for Clin. Lab. Stds. The evaluation was performed in two steps: examn. of the anal. units and evaluation in routine operation. The evaluation of the anal. units included a photometric study: the inaccuracy is acceptable for 340 and 405 nm; the imprecision ranges 0.12-0.95% at 340 nm and 0.30-0.73 at 405 nm, the linearity shows some dispersion at low **absorbance** for NADH at 340 nm, the drift is negligible, the imprecision of the pipet delivery system increases when the sample pipet operates with 3 .mu.L; the reagent pipet imprecision is acceptable, and the temp. control system is good. Under routine working conditions, 7 detns. were studied: glucose, creatinine, Fe, total protein, aspartate aminotransferase (AST), **alk. phosphatase**, and Ca. The within-run imprecision (CV) ranged from 0.6% for total protein and AST to 6.9% for Fe. The between run imprecision ranged from 2.4% for glucose to 9.7% for Fe. Some contamination was found in the carry-over study. The relative inaccuracy is good for all the constituents assayed.
ST Hitachi 717 analyzer spectrophotometer evaluation; blood analysis Hitachi 717 spectrophotometer
IT Spectrometers
(Hitachi 717 analyzer, evaluation of)
IT Blood analysis
(Hitachi 717 spectrophotometer in, evaluation of)
IT Proteins, analysis
RL: ANT (Analyte); ANST (Analytical study)
(detn. of, by Hitachi 717 spectrophotometer, evaluation of)
IT 50-99-7, Glucose, analysis 57-00-1, Creatine 58-68-4, NADH **100-02-7**, p-**Nitrophenol**, analysis 7439-89-6, Iron, analysis 7440-70-2, Calcium, analysis 9000-97-9, Aspartate aminotransferase **9001-78-9**, **Alkaline phosphatase**
RL: ANT (Analyte); ANST (Analytical study)
(detn. of, by Hitachi 717 spectrophotometer, evaluation of)

L18 ANSWER 11 OF 18 HCAPLUS COPYRIGHT 2002 ACS
AN 1988:469939 HCAPLUS
DN 109:69939
TI Enzyme immunoassay detection-range expansion by measuring off-optimum **absorbance**
IN Philo, Roger David
PA Serono Diagnostics Partners, USA
SO Eur. Pat. Appl., 19 pp.
CODEN: EPXXDW
DT Patent
LA English
IC ICM G01N033-53
ICS G01N033-78; G01N033-577; G01N033-537; G01N033-76
CC 9-10 (Biochemical Methods)
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 249357	A2	19871216	EP 1987-304644	19870526
	EP 249357	A3	19891004		
	EP 249357	B1	19930818		
	R: AT, BE, CH, DE, ES, FR, GB, GR, IT, LI, LU, NL, SE				
	AT 93321	E	19930915	AT 1987-304644	19870526
	ES 2046203	T3	19940201	ES 1987-304644	19870526
	US 4914023	A	19900403	US 1987-58483	19870605
	IL 82790	A1	19910630	IL 1987-82790	19870607

	AU 8774059	A1	19871217	AU 1987-74059	19870609
	AU 601434	B2	19900913		
	CA 1284104	A1	19910514	CA 1987-539226	19870609
	ZA 8704173	A	19880224	ZA 1987-4173	19870610
	JP 63066463	A2	19880325	JP 1987-143429	19870610
	JP 07018877	B4	19950306		
PRAI	GB 1986-14084		19860610		
	EP 1987-304644		19870526		

AB The detection range for EIA is expanded by measuring the **absorbance** of the colored products produced at two different wavelengths; the 1st wavelength being the optimum wavelength for **absorbance**. When the **absorption** of the colored products at the 1st wavelength exceeds the linear range of the detector, the **absorbance** at the 2nd wavelength (at which **absorbance** by the relevant product is lower that at the 1st wavelength) is measured and converted to a value corresponding to that of the 1st wavelength using results of linear regression anal. on **absorbance** measurements obtained with stds. at both wavelengths within the linear range of the detector. **Alk. phosphatase** soln. stds. of known concns. were added to phenolphthalein phosphate soln. and the **absorbance** measured at 490 and 554 nm. When **absorbance** at 554 nm (A554) was >1.5, the solns. were dild. 10 fold. Plots of enzyme concns. against A554 and A490 were used to obtain ests. of enzyme concns. of unknown samples. Regression of the enzyme concns. calcd. from **absorbance** at 554 nm on enzyme concns. calcd. from **absorbance** at 490 nm gave y = -0.011 + 1.051x; r = 0.999.

ST EIA detection range expansion

IT Immunochemical analysis
(enzyme immunoassay, detection-range expansion in, off-optimum **absorbance** measurement in relation to)

IT 77-09-8, Phenolphthalein 13306-67-7, Phenolphthalein monophosphate
RL: ANST (Analytical study)
(EIA with, detection-range expansion in, off-optimum **absorbance** measurement in relation to)

IT **9001-78-9, Alkaline phosphatase** 9031-11-2, .beta.-Galactosidase
RL: ANST (Analytical study)
(detection-range expansion in EIA with, off-optimum **absorbance** measurement in relation to)

IT 51-48-9, Thyroxine, analysis
RL: ANST (Analytical study)
(detn. of TSH and, simultaneous, by EIA, detection-range expansion in)

IT 9002-71-5, Thyroid-stimulating hormone
RL: ANST (Analytical study)
(detn. of thyroxine and, simultaneous, by EIA, detection-range expansion in)

IT 9002-61-3, Chorionic gonadotropin
RL: ANST (Analytical study)
(detn. of .beta.-subunit of and human, simultaneous, by EIA, detection-range expansion in)

IT 9031-11-2
RL: ANST (Analytical study)
(nitrophenyl, EIA with, detection-range expansion in, off-optimum **absorbance** measurement in relation to)

IT 88-75-5 **100-02-7**, biological studies
RL: ANST (Analytical study)
(off-optimum **absorbance** measurement of, in EIA, detection-range expansion in relation to)

L18 ANSWER 12 OF 18 HCAPLUS COPYRIGHT 2002 ACS
AN 1982:24300 HCAPLUS
DN 96:24300
TI Determination of the activity of a heterogeneous culture with

alkaline phosphatase
AU Vankova, Svatava; Vesela, Alena; Kupec, Jan; Mladek, Milan
CS Fak. Technol., Vys. Uceni Tech., Gottwaldov, Czech.
SO Kozarstvi (1981), 31(9), 268-70
CODEN: KOZAAT; ISSN: 0023-4338
DT Journal
LA Czech
CC 60-1 (Waste Treatment and Disposal)
Section cross-reference(s): 7, 45
AB The activity of **alk. phosphatase** in river sediments was comparable to its activity in 4 mo old active sludge from a wastewater treatment plant at a leather factory. The activity was detd. by measuring the optical extinction coeff. of p-**nitrophenol** [**100-02-7**] after incubation in H2O contg. a known concn. of the sludge.
ST **alk phosphatase** activity sludge; leather wastewater
alk phosphatase activity
IT Wastewater treatment
(sludge activity in, **alk. phosphatase** detn. in relation to)
IT Leather
(wastewaters from processing of, activity of sludges in treatment of)
IT **9001-78-9**
RL: PRP (Properties)
(activity of, in sludges, detn. of)
IT **100-02-7**, analysis
RL: **PRP (Properties)**
(optical extinction coeff. of, in detn. of **alk. phosphatase** activity)

L18 ANSWER 13 OF 18 HCAPLUS COPYRIGHT 2002 ACS
AN 1981:599783 HCAPLUS
DN 95:199783
TI Methods for enzyme assay
PA Shimadzu Seisakusho Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 4 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC C12Q001-00; G01N021-75
CC 7-1 (Enzymes)
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 56096699	A2	19810804	JP 1979-172381	19791227
	JP 57029997	B4	19820625		

AB A spectrophotometric rate assay for detg. enzyme activity is given. An assay const. is calcd. from the difference in **absorbance** between a 1st std. soln. contg. the substrate and the light-**absorbing** reaction product and a 2nd std. soln. contg. the substrate only. The **absorbance** of a test soln. contg. the substrate and enzyme (or samples contg. enzyme) is then measured and the enzyme activity is calcd. by multiplying the assay const. times the difference in **absorbance** between the test samples and the 2nd std. soln. Thus, a 1st std. soln. contg. MgCl2, p-nitrophenyl phosphate, and p-**nitrophenol** in a diethanolamine buffer (pH 9.8), a 2nd std. soln. contg. MgCl2 and p-nitrophenyl phosphate in similar buffer, and a test soln. contg. MgCl2, p-nitrophenyl phosphate, and test fluid such as blood serum were prepd. **Absorbance** was measured at 415 nm for detn. of **alk. phosphatase** activity in test soln. An assay const. was calcd. from the difference in **absorbance** at 415 nm between the 1st and 2nd std. soln., and the enzyme activity was then calcd. by multiplying the assay const. with the difference in **absorbance** (415 nm) between

the test soln. and the 2nd std. soln.
ST blood nitrophenyl phosphatase detn; phosphatase nitrophenyl detn spectrophotometry
IT Enzymes
RL: ANT (Analyte); ANST (Analytical study)
(detn. of, spectrophotometric)
IT Blood analysis
(enzyme detn. in, spectrophotometric)
IT **100-02-7**, uses and miscellaneous 330-13-2
RL: USES (Uses)
(**alk. phosphatase** detn. in presence of, spectrophotometric)
IT **9001-78-9** 9046-27-9 9073-68-1
RL: ANT (Analyte); ANST (Analytical study)
(detn. of, spectrophotometric)

L18 ANSWER 14 OF 18 HCAPLUS COPYRIGHT 2002 ACS
AN 1981:60666 HCAPLUS
DN 94:60666
TI 4-Nitrophenyl phosphate - characterization of high-purity materials for measuring **alkaline phosphatase** activity in human serum
AU Bowers, George N., Jr.; McComb, Robert B.; Upretti, Amapoli
CS Dep. Pathol., Hartford Hosp., Hartford, CT, 06115, USA
SO Clin. Chem. (Winston-Salem, N. C.) (1981), 27(1), 135-43
CODEN: CLCHAU; ISSN: 0009-9147
DT Journal
LA English
CC 7-13 (Enzymes)
AB A total of 53 lots of 4-nitrophenyl phosphate (I), obtained from 20 different com. suppliers, were studied and specifications for I were defined. Of 53 lots, 21 were unacceptable, 26 were borderline, and 6 were acceptable. All lots contained some 4-**nitrophenol** and PO43-. However, acceptable I had <0.3 mmol 4-**nitrophenol** and <10 mmol PO43-/mol. The mol concn. of I (based on I di-Na hexahydrate, formula wt. 371) was detd. by enzymic conversion to 4-**nitrophenol** in 5 lots of acceptable material. The mole fraction of I ranged from 0.982 to 0.998. From these measurements and from ests. of impurities that **absorb** at 311 nm, as detd. by liq. chromatog. and spectrophotometry at other wavelengths, a molar **absorptivity** of I at 311 nm in 10 mM NaOH at 25.degree. was estd. as 9867 M-1 cm-1. I used in clin. labs for measurement of **alk. phosphatase** activity in serum should meet the specifications given in this paper: I content >98%, max. activity >98% in comparative testing with other acceptable lots, and impurities not exceeding the values cited above.
ST **alk phosphatase** substrate quality control; nitrophenyl phosphate quality control
IT **100-02-7**, biological studies 14265-44-2, biological studies
RL: BIOL (Biological study)
(as nitrophenyl phosphate impurity, specification for **alk. phosphatase** detn.)
IT **9001-78-9**
RL: ANT (Analyte); ANST (Analytical study)
(detn. of, nitrophenyl phosphate specifications for)
IT 330-13-2
RL: BIOL (Biological study)
(in **alk. phosphatase** assay, specification for)

L18 ANSWER 15 OF 18 HCAPLUS COPYRIGHT 2002 ACS
AN 1980:421965 HCAPLUS
DN 93:21965
TI High-purity 4-**nitrophenol**: purification, characterization, and specifications for use as a spectrophotometric reference material
AU Bowers, George N., Jr.; McComb, Robert B.; Christensen, Richard G.;

Schaffer, Robert
CS Dep. Pathol., Hartford Hosp., Hartford, CT, 06115, USA
SO Clin. Chem. (Winston-Salem, N. C.) (1980), 26(6), 724-9
CODEN: CLCHAU; ISSN: 0009-9147
DT Journal
LA English
CC 9-4 (Biochemical Methods)
Section cross-reference(s): 7
AB The ref. material is needed in clin. enzymol. to establish the proper molar **absorptivity** of 4-**nitrophenol** under final reaction conditions, particularly for measuring **alk. phosphatase** activity in human serum. Some lots of 4-**nitrophenol** available com. met these specifications, but several did not. The latter can be purified to specifications by recrystn. or sublimation. The molar **absorptivity** of 4-**nitrophenol** (35 .mu.mol/L) in 10 mmol/L NaOH at 25.degree. at 401 nm is 18,380 L/mol/cm.
ST **nitrophenol** std purifn; serum **alk.phosphatase** **nitrophenol** purity
IT Blood analysis
(**alk. phosphatase** detn. in, **nitrophenol** std. purifn. in relation to)
IT Standard substances
(**nitrophenol** as, in **alk. phosphatase** detn., purifn. of)
IT **100-02-7**, biological studies
RL: BIOL (Biological study)
(as std. for **alk. phosphatase** detn., purifn. of)
IT **9001-78-9**
RL: ANT (Analyte); ANST (Analytical study)
(detn. of, in blood serum, **nitrophenol** std. purifn. in relation to)

L18 ANSWER 16 OF 18 HCAPLUS COPYRIGHT 2002 ACS
AN 1980:142176 HCAPLUS
DN 92:142176
TI On the influence of reaction conditions in activity determination of **alkaline phosphatase** on the molar **absorptivity** of 4-**nitrophenol**
AU Jung, Klaus; Koehler, Alfons
CS Univ. Hosp. Charite, Humboldt Univ. Berlin, Berlin, 1017, Ger. Dem. Rep.
SO Clin. Chim. Acta (1980), 101(1), 1-4
CODEN: CCATAR; ISSN: 0009-8981
DT Journal
LA English
CC 7-1 (Enzymes)
AB In detn. of **alk. phosphatase** (I) activity, the measuring temp., type and concn. of buffer, and protein concn. in the test influence the molar **absorptivity** of 4-**nitrophenol**. Thus, systematic errors of .ltoreq.3% may occur in activity detns. of I if these influences are not taken into account.
ST **alk phosphatase** detn
IT Albumins, blood serum
RL: BIOL (Biological study)
(**nitrophenol** molar **absorptivity** response to, **alk. phosphatase** detn. in relation to)
IT **9001-78-9**
RL: ANT (Analyte); ANST (Analytical study)
(detn. of, reaction conditions effect on)
IT 115-69-5 124-68-5 1310-73-2, biological studies 14426-21-2
RL: BIOL (Biological study)
(**nitrophenol** molar **absorptivity** response to, **alk. phosphatase** detn. in relation to)

IT **100-02-7**, biological studies
RL: ANT (Analyte); ANST (Analytical study)
(spectrometric detn. of, in acrolein phosphatase assay, reaction conditions effect on)

L18 ANSWER 17 OF 18 HCAPLUS COPYRIGHT 2002 ACS
AN 1979:134333 HCAPLUS
DN 90:134333
TI The dependence of the molar **absorptivity** of 4-nitroaniline, 3-carboxy-4-nitroaniline and 4-**nitrophenol** on the reaction conditions
AU Lehmann, P.; Lill, H.; Schaich, E.; Grassl, M.
CS Forschungszent., Boehringer Mannheim G.m.b.H., Tutzing, Ger.
SO Enzymes Health Dis., Inaug. Sci. Meet. Int. Soc. Clin. Enzymol. (1978), Meeting Date 1977, 107-14. Editor(s): Goldberg, David M.; Wilkinson, John Henry. Publisher: Karger, Basel, Switz.
CODEN: 39YUAE
DT Conference
LA English
CC 7-1 (Enzymes)
AB The linear molar **absorption** coeff. (.epsilon.)-values of 3-carboxy-4-nitroaniline, 4-nitroaniline, and 4-**nitrophenol** at Hg 405 nm and 25.degree. were redetd. In the case of 3-carboxy-4-nitroaniline, the kinetic assay of .gamma.-glutamyltransferase based on the principles outlined by G. Szasz, et al. (1976) was used. The .epsilon.-values of 4-nitroaniline and 4-**nitrophenol** were detd. under the conditions of the leucine arylamidase and the **alk. phosphatase** assays, resp., according to the recommendations of the German Society for Clin. Chem. It was found that the molar **absorptivities** of these 3 indicator compds. are not const. but depend on the conditions under which they are measured. They are strongly influenced by their concn. and by the ionic strength of the soln.
ST enzyme indicator compd molar **absorptivity**; nitroaniline molar **absorptivity**; carboxynitroaniline molar **absorptivity**; **nitrophenol** molar **absorptivity**
IT Enzymes
RL: ANT (Analyte); ANST (Analytical study)
(detn. of, indicator compd. molar **absorptivity** in relation to)
IT **Absorptivity**
(molar, of enzyme indicator compds., reaction conditions effect on)
IT 9046-27-9
RL: BIOL (Biological study)
(carboxynitroaniline molar **absorptivity** detn. in relation to)
IT 100-01-6, biological studies **100-02-7**, biological studies 13280-60-9
RL: **PRP (Properties)**
(molar **absorptivity** of, in enzyme reactions)
IT 39346-24-2
RL: BIOL (Biological study)
(nitroaniline molar **absorptivity** detn. in relation to)
IT **9001-78-9**
RL: BIOL (Biological study)
(**nitrophenol** molar **absorptivity** detn. in relation to)

L18 ANSWER 18 OF 18 HCAPLUS COPYRIGHT 2002 ACS
AN 1979:85749 HCAPLUS
DN 90:85749
TI Determination of phosphatase activities of soils and animal wastes
AU Gerritse, R. G.; Van Duk, H.
CS Inst. Soil Fertil., Haren, Neth.
SO Soil Biol. Biochem. (1978), 10(6), 545-51

CODEN: SBIOAH; ISSN: 0038-0717
DT Journal
LA English
CC 19-1 (Fertilizers, Soils, and Plant Nutrition)
Section cross-reference(s): 7
AB A method is described for detg. acid [9001-77-8] and **alk. phosphatase** [**9001-78-9**] activities from the rate of decompn. of p-nitrophenylphosphate in the presence of large amts. of org. matter, such as occur in the surface layers of soils or in animal wastes. P-**nitrophenol** [**100-02-7**] formed is sepd. by high pressure liq. chromatog. on a cellulose column from p-nitrophenylphosphate and other org. compds. present in the soil or waste ext. After sepn., p-**nitrophenol** is measured on-line in a spectrophotometric flow cell at a wavelength of 405 nm. In this way p-**nitrophenol** concns. down to 0.1 .mu.m can be measured, making possible to work with substrate concns. of 1 .mu.m. The necessity of correcting the **phosphatase** activity measured in this way for **adsorption** of enzyme substrate (p-nitrophenylphosphate) and product (p-**nitrophenol**) is discussed. Acid and **alk. phosphatases** are inhibited strongly at phosphate concns. greater than 0.1 m.mu., consequently substrate concns. in the range of 0.01 to 0.1 m.mu. were used. The method was applied to a no. of sandy soils and to pig slurry. Air drying or freeze drying of soils decreased the **phosphatase** activity. Freeze drying did not affect the **phosphatase** activity of pig slurry. Michaelis-Menton kinetics were found to apply reasonably well. The resulting kinetic parameters are compared with values from the literature. **Phosphatase** activities are correlated with org. P and org. matter contents of soils and pig slurry.
ST phosphatase detn soil manure
IT Soil analysis
(phosphatase detn. in)
IT Manure
(pig slurry, phosphatase detn. in)
IT **100-02-7**, properties
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(**adsorption** of, by soil and manure and its detn., phosphatase anal. in relation to)
IT 9001-77-8 **9001-78-9**
RL: ANT (Analyte); ANST (Analytical study)
(detn. of, in manure and soils)

=> d all tot

L35 ANSWER 1 OF 6 HCAPLUS COPYRIGHT 2002 ACS
AN 2001:663288 HCAPLUS
DN 136:306154
TI A membrane separator/bioreactor coupled with absorbance measurement for detection of Escherichia coli O157:H7
AU Liu, Yongcheng; Ye, Jianming; Li, Yanbin
CS Department of Biological & Agricultural Engineering, University of Arkansas, Fayetteville, AR, 72701, USA
SO Journal of Rapid Methods and Automation in Microbiology (2001), 9(2), 85-96
CODEN: JRMMEE; ISSN: 1060-3999
PB Food & Nutrition Press, Inc.
DT Journal
LA English
CC 9-1 (Biochemical Methods)
Section cross-reference(s): 10
AB A membrane separator/bioreactor system was developed for rapid detection of Escherichia coli O157:H7. The system consisted of a membrane separator/bioreactor (0.45 .mu.m of the pore size) to sep. the complexes

of E. coli O157:H7 and **alk. phosphatase**-conjugated anti-E. coli O157:H7 antibodies from the sample and to produce p-**nitrophenol** through the enzymic reaction (p-nitrophenyl phosphate hydrolysis), and an optical detector for measuring the p-**nitrophenol** absorbance at 400 nm. The membrane material and the flow rate of the substrate for the enzymic hydrolysis had great effects on the absorbance of p-**nitrophenol**. The optimum conditions for the enzymic reaction were detd. as 1.0 M Tris buffer, pH 8.0, and 0.1 M MgCl2 for this system. The detection range was 104 .apprx. 107 CFU/mL with a relative std. deviation of 4.3.apprx.14.2%, and whole procedure could be completed in 50 min without any enrichment and culture. Other bacteria such as Salmonella typhimurium, Campylobacter jejuni and Listeria monocytogenes had no significant interference with the detection of E. coli O157:H7.

ST membrane separator bioreactor coupled absorbance detection Escherichia coli

IT Hydrolysis
(enzymic; membrane separator/bioreactor coupled with absorbance measurement for detection of Escherichia coli O157:H7)

IT Bioreactors
Campylobacter jejuni
Escherichia coli
Flow
Hydrolysis
Listeria monocytogenes
Membranes, nonbiological
Optical detectors
Pore size
Salmonella typhimurium
Separators
UV and visible spectroscopy
pH
(membrane separator/bioreactor coupled with absorbance measurement for detection of Escherichia coli O157:H7)

IT Antibodies
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(membrane separator/bioreactor coupled with absorbance measurement for detection of Escherichia coli O157:H7)

IT **100-02-7**, p-**Nitrophenol**, analysis
RL: ANT (Analyte); ARU (Analytical role, unclassified); ANST (Analytical study)
(membrane separator/bioreactor coupled with absorbance measurement for detection of Escherichia coli O157:H7)

IT 330-13-2, p-Nitrophenyl phosphate **9001-78-9, Alkaline phosphatase**
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(membrane separator/bioreactor coupled with absorbance measurement for detection of Escherichia coli O157:H7)

IT 77-86-1, Tris buffer 7786-30-3, Magnesium chloride (MgCl2), analysis
RL: ARU (Analytical role, unclassified); ANST (Analytical study)
(membrane separator/bioreactor coupled with absorbance measurement for detection of Escherichia coli O157:H7)

RE.CNT 22 THERE ARE 22 CITED REFERENCES AVAILABLE FOR THIS RECORD

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(16) Malcata, F; Biotechnol Bioeng 1992, V39, P647 HCAPLUS
(17) Malcata, F; Biotechnol Bioeng 1992, V39, P984 HCAPLUS
(18) Nakano, H; Biotechnol Bioeng 1999, V64, P194 HCAPLUS
(19) Pronk, W; Biotechnol Bioeng 1988, V32, P512 HCAPLUS
(20) Salagnad, C; Biotechnol Prog 1997, V13, P810 HCAPLUS
(21) Seelbach, K; Biotechnol Bioeng 1997, V55, P283 HCAPLUS
(22) Yamane, T; J Jpn Oil Chem Soc 1986, P10 HCAPLUS

L35 ANSWER 2 OF 6 HCAPLUS COPYRIGHT 2002 ACS
AN 2000:238439 HCAPLUS
DN 132:247995
TI Spectrophotometric method for the determination of **alkaline phosphatase** in blood serum that eliminates the interference of hemoglobin
IN **Weisheit, Ralph; Treiber, Wolfgang**
PA Roche Diagnostics G.m.b.H., Germany
SO Ger. Offen., 6 pp.
CODEN: GWXXBX
DT Patent
LA German
IC ICM C12Q001-42
ICS G01N033-72
CC 7-1 (Enzymes)
Section cross-reference(s): 14
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 19846301	A1	20000413	DE 1998-19846301	19981008
	WO 2000022162	A1	20000420	WO 1999-EP7394	19991005
	W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	AU 9964682	A1	20000501	AU 1999-64682	19991005
	EP 1119641	A1	20010801	EP 1999-952500	19991005
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	JP 2002527076	T2	20020827	JP 2000-576052	19991005
PRAI	DE 1998-19846301	A	19981008		
	WO 1999-EP7394	W	19991005		

AB The invention concerns the spectrophotometric detn. of **alk. phosphatase** in blood serum or plasma at two wavelengths thus eliminating the interference of Hb or blood substitutes. Blood substitutes are modified Hb, bovine Hb, recombinant Hb. Hb content can be up to 6500 mg/dL. The selected wavelengths are 450 nm in combination with 480 nm, 546 nm, or 575 nm. Thus 4-nitrophenylphosphate was used as substrate; absorption was measured within 4 min.
ST **alk phosphatase** blood spectrophotometry Hb interference
IT Blood analysis
Blood plasma
Blood serum

Blood substitutes
UV and visible spectroscopy
(spectrophotometric method for detn. of **alk.** **phosphatase** in blood serum that eliminates interference of Hb)

IT Hemoglobins
RL: ARU (Analytical role, unclassified); BOC (Biological occurrence); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study); OCCU (Occurrence)
(spectrophotometric method for detn. of **alk.** **phosphatase** in blood serum that eliminates interference of Hb)

IT **9001-78-9, Alkaline phosphatase**
RL: ANT (Analyte); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(spectrophotometric method for detn. of **alk.** **phosphatase** in blood serum that eliminates interference of Hb)

IT 330-13-2, 4-Nitrophenylphosphate
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(spectrophotometric method for detn. of **alk.** **phosphatase** in blood serum that eliminates interference of Hb)

L35 ANSWER 3 OF 6 HCAPLUS COPYRIGHT 2002 ACS
AN 2000:238438 HCAPLUS
DN 132:247994
TI Spectrophotometric method for the determination of **alkaline** **phosphatase** in plasma or serum using the rate-blank method to eliminate hemoglobin interference
IN **Weisheit, Ralph; Treiber, Wolfgang**
PA Roche Diagnostics G.m.b.H., Germany
SO Ger. Offen., 6 pp.
CODEN: GWXXBX
DT Patent
LA German
IC ICM C12Q001-42
ICS G01N033-72
CC 7-1 (Enzymes)
Section cross-reference(s): 14
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 19846300	A1	20000413	DE 1998-19846300	19981008 <--
	WO 2000022161	A1	20000420	WO 1999-EP7366	19991005 <--
	W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	AU 9961997	A1	20000501	AU 1999-61997	19991005 <--
	EP 1119640	A1	20010801	EP 1999-948931	19991005 <--
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	JP 2002527075	T2	20020827	JP 2000-576051	19991005 <--
PRAI	DE 1998-19846300	A	19981008 <--		
	WO 1999-EP7366	W	19991005 <--		

AB The invention concerns the spectrophotometric detn. of **alk.** **phosphatase** in blood plasma or serum at 450 nm and 660 nm in combination with the rate-blank method to eliminate the interference of Hb or blood substitutes. To measure the rate of the blank, absorption is measured without adding the 4-nitrophenyl phosphate substrate to the samples.

ST **alk phosphatase** blood spectrophotometry Hb interference rate blank method

IT Blood analysis
Blood plasma
Blood serum
Blood substitutes
UV and visible spectroscopy
(spectrophotometric method for detn. of **alk. phosphatase** in plasma or serum using rate-blank method to eliminate Hb interference)

IT Hemoglobins
RL: ARU (Analytical role, unclassified); ANST (Analytical study)
(spectrophotometric method for detn. of **alk. phosphatase** in plasma or serum using rate-blank method to eliminate Hb interference)

IT **9001-78-9, Alkaline phosphatase**
RL: ANT (Analyte); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(spectrophotometric method for detn. of **alk. phosphatase** in plasma or serum using rate-blank method to eliminate Hb interference)

IT 330-13-2, 4-Nitrophenyl phosphate
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(spectrophotometric method for detn. of **alk. phosphatase** in plasma or serum using rate-blank method to eliminate Hb interference)

L35 ANSWER 4 OF 6 HCAPLUS COPYRIGHT 2002 ACS
AN **1999:616660** HCAPLUS
DN **132:3186**
TI Partitioning of 4-**nitrophenol** in aerosol-OT reverse micelles
AU Hung, Hui-Chih; Chang, Gu-Gang
CS Graduate Institutes of Life Sciences and Biochemistry, National Defense Medical Center, Taipei, Taiwan
SO Journal of the Chemical Society, Perkin Transactions 2: Physical Organic Chemistry (1999), (10), 2177-2182
CODEN: JCPKBH; ISSN: 0300-9580
PB Royal Society of Chemistry
DT Journal
LA English
CC 22-12 (Physical Organic Chemistry)
Section cross-reference(s): 7, 9, 68

AB Partitioning of 4-**nitrophenol** in a reverse micellar system consisting of aerosol-OT (AOT)-H2O-isooctane was monitored spectrophotometrically. At pH 10.0, the ionized form 4-nitrophenolate in the H2O pool **absorbs** visible light with a max. peak at 402 nm. However, that partitioned into the interface region is not ionized due to interactions with the neg. charged polar head of the surfactant. The partitioning depends on the H2O content of the system. In some intermediate [H2O]/[AOT] molar ratio values, 2 **absorption** peaks were clearly obsd., which can be used in the partition coeff. estn. The partitioning also depends on the buffer used. While partitioning of 4-**nitrophenol** into the interface is obsd. in carbonate buffer, the partitioning disappeared in 2-amino-2-methylpropanol buffer presumably due to displacement of 4-**nitrophenol** from the interface region into the H2O pool. This displacement is not a salt effect but is due to the amino group of 2-amino-2-methylpropanol, because tert-butylamine, rather than isobutanol, induced the replacement. When the surfactant concn. was increased, while keeping the system H2O content const., the **absorption** peak at 402 nm increased with a concomitant decrease in the A310 peak, which demonstrated the affinity of the nonionized 4-**nitrophenol** with the surfactant. Multiple apparent pKa values of 4-**nitrophenol** were obsd. in the AOT reverse micellar system.

The authors propose a model of the AOT reverse micelles with a gradient micro-polarity in the H2O pool that results in a continuous influence on the ionization of 4-**nitrophenol** in the H2O pool of the system.

ST partitioning dissocn const **nitrophenol** surfactant AOT reverse micelle

IT Dissociative ionization
(dependence of **nitrophenol** pKa on position in micelle; partitioning of 4-**nitrophenol** in aerosol-OT reverse micelles)

IT Surfactants
(interaction of **nitrophenol** with charges in; partitioning of 4-**nitrophenol** in aerosol-OT reverse micelles)

IT Solvent polarity effect
(micro-; partitioning of 4-**nitrophenol** in aerosol-OT reverse micelles)

IT Buffers
(partitioning and pKa effects; partitioning of 4-**nitrophenol** in aerosol-OT reverse micelles)

IT Amino group
(partitioning effect due to buffer; partitioning of 4-**nitrophenol** in aerosol-OT reverse micelles)

IT Interface
Ionic strength
Partition
Solvatochromism
UV and visible spectra
(partitioning of 4-**nitrophenol** in aerosol-OT reverse micelles)

IT Micelles
(reverse; partitioning of 4-**nitrophenol** in aerosol-OT reverse micelles)

IT Dissociation constant
(system dependent apparent pKa for **nitrophenol**; partitioning of 4-**nitrophenol** in aerosol-OT reverse micelles)

IT Phase
(systems; partitioning of 4-**nitrophenol** in aerosol-OT reverse micelles)

IT Affinity
(undissocd. **nitrophenol** affinity for surfactant; partitioning of 4-**nitrophenol** in aerosol-OT reverse micelles)

IT 124-68-5, 2-Amino-2-methylpropanol 144-55-8, Sodium bicarbonate, reactions 497-19-8, Sodium carbonate, reactions 3812-32-6, Carbonate, reactions
RL: NUU (Other use, unclassified); PEP (Physical, engineering or chemical process); RCT (Reactant); PROC (Process); RACT (Reactant or reagent); USES (Uses)
(buffer; partitioning of 4-**nitrophenol** in aerosol-OT reverse micelles)

IT **100-02-7**, 4-**Nitrophenol**, reactions 14609-74-6, 4-**Nitrophenol**, ion(1-), reactions
RL: PEP (Physical, engineering or chemical process); **PRP (Properties)**; RCT (Reactant); PROC (Process); RACT (Reactant or reagent)
(partitioning of 4-**nitrophenol** in aerosol-OT reverse micelles)

IT 78-83-1, Isobutanol, uses
RL: NUU (Other use, unclassified); USES (Uses)
(partitioning solvent contg.; partitioning of 4-**nitrophenol** in aerosol-OT reverse micelles)

IT 540-84-1, Isooctane
RL: NUU (Other use, unclassified); USES (Uses)
(solvent; partitioning of 4-**nitrophenol** in aerosol-OT reverse micelles)

IT 57-09-0, CTAB 577-11-7, AOT 9002-93-1, Triton X-100

RL: NUU (Other use, unclassified); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(surfactant; partitioning of 4-**nitrophenol** in aerosol-OT reverse micelles)

IT 75-64-9, tert-Butylamine, reactions
RL: NUU (Other use, unclassified); PEP (Physical, engineering or chemical process); RCT (Reactant); PROC (Process); RACT (Reactant or reagent); USES (Uses)
(system interface behavior with buffer; partitioning of 4-**nitrophenol** in aerosol-OT reverse micelles)

IT 7732-18-5, Water, uses
RL: NUU (Other use, unclassified); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(system properties dependent on concn. of; partitioning of 4-**nitrophenol** in aerosol-OT reverse micelles)

RE.CNT 37 THERE ARE 37 CITED REFERENCES AVAILABLE FOR THIS RECORD

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L35 ANSWER 5 OF 6 HCAPLUS COPYRIGHT 2002 ACS
AN **1999:367794** HCAPLUS
DN **131:53355**
TI Simultaneous determination of p-acetaminophenol and p-**nitrophenol** by dual-wavelength spectrophotometry
AU Liu, Chunying; Zhou, Beilei; Cheng, Xiaoling; Fang, Yanxiong; Mao, Huamei
CS Experiment and Research Center, GDUT, Canton, 510090, Peop. Rep. China
SO Guangdong Gongye Daxue Xuebao (1999), 16(1), 55-58

CODEN: GDAXFR; ISSN: 1007-7162
PB Guangdong Gongye Daxue
DT Journal
LA Chinese
CC 80-6 (Organic Analytical Chemistry)
Section cross-reference(s): 64
AB In 0.1 mol/L HCl medium, the method of simultaneous detn. of p-acetaminophenol and p-**nitrophenol** was studied by dual-wavelength spectrophotometry. The **absorption** max. of p-**nitrophenol** is 318 nm; the linear range is 0-30 mg/L. The measurement wavelength for p-acetaminophenol is 240 nm and the ref. wavelength is 358 nm. The method was fast and simple. The recovery was 92-106% and the relative error is .+-.8%.
ST acetaminophenol **nitrophenol** simultaneous detn dual wavelength spectrophotometry
IT **UV and visible spectra**
(of p-acetaminophenol and p-**nitrophenol**)
IT **100-02-7**, p-**Nitrophenol**, analysis 103-90-2
RL: ANT (Analyte); **PRP (Properties)**; ANST (Analytical study)
(simultaneous detn. of p-acetaminophenol and p-**nitrophenol** by dual-wavelength spectrophotometry)

L35 ANSWER 6 OF 6 HCAPLUS COPYRIGHT 2002 ACS
AN **1998:489646** HCAPLUS
DN **129:310165**
TI Study on suitable conditions for determination of p-**nitrophenol** by ultraviolet spectrophotometry
AU Guo, Kunmei; Deng, Youjun
CS Nanjing Soil Institute, Chinese Academy of Science, Nanjing, 210008, Peop. Rep. China
SO Huanjing Wuran Yu Fangzhi (1998), 20(1), 47-48
CODEN: HWYFEW; ISSN: 1001-3865
PB Huanjing Wuran Yu Fangzhi Bianjibu
DT Journal
LA Chinese
CC 80-6 (Organic Analytical Chemistry)
AB The effects of wavelength, pH, temp., and the concn. of p-**nitrophenol** on the detn. of p-**nitrophenol** by UV spectrophotometry were studied. The suitable conditions for the detn. were: p-**nitrophenol** 4-10 mg/L, pH 3.5-4.0, wavelength 317 nm, and cell length 1 cm.
ST **nitrophenol** detn UV
IT **UV and visible spectroscopy**
(study on suitable conditions for detn. of p-**nitrophenol** by UV spectrophotometry)
IT **100-02-7**, p-**Nitrophenol**, analysis
RL: ANT (Analyte); **PRP (Properties)**; ANST (Analytical study)
(study on suitable conditions for detn. of p-**nitrophenol** by UV spectrophotometry)

=> d all tot

L39 ANSWER 1 OF 2 HCAPLUS COPYRIGHT 2002 ACS
AN **1985:108552** HCAPLUS
DN **102:108552**
TI Molar **absorptivity** of 4-nitrophenol at neutral pH
AU Yamadate, Shyuko; Takei, Norihisa; Nagase, Masashi; Sekiguchi, Mitsuo
CS Itabashi Hosp., Nihon Univ., Tokyo, Japan
SO Eisei Kensa (1984), 33(8), 1100-3
CODEN: EIKEAS; ISSN: 0367-052X
DT Journal
LA Japanese

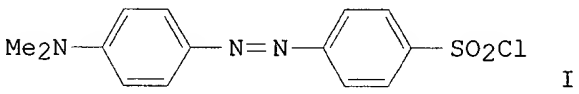
CC 7-1 (Enzymes)
Section cross-reference(s): 22
AB In the measurement of .alpha.-amylase activity, 4-nitrophenyl oligosaccharide is used as a substrate. The mol. **absorptivity** of 4-nitrophenol is affected by medium pH. The present expt. was carried out to investigate the mol. **absorptivity** of 4-nitrophenol at neutral pH. The mol. **absorptivity** of 4-nitrophenol at various pH was measured. At narrow range of near neutral pH, linear correlation between pH and mol. **absorptivity** was obsd. The mol. **absorptivity** at **405 nm** and **415 nm** was estd. as y = 9956x - 60354 and y = 9404x - 57597, resp. (y represents mol. **absorptivity** and x represents pH). From the results, for the estn. of mol **absorptivity** at neutral pH, the above equations should be used.
ST amylase detection nitrophenyloligosaccharide molar **absorptivity**; nitrophenol molar **absorptivity** pH
IT Oligosaccharides
RL: BIOL (Biological study)
(compds. with nitrophenol, in .alpha.-amylase detn., molar **absorptivity** of nitrophenol in relation to)
IT 9000-90-2
RL: ANT (Analyte); ANST (Analytical study)
(detn. of, nitrophenyl oligosaccharides in, nitrophenol molar **absorptivity** in relation to)
IT **100-02-7D**, compds. with oligosaccharides
RL: BIOL (Biological study)
(in .alpha.-amylase detn., molar **absorptivity** of nitrophenol in relation to)
IT **100-02-7**, properties
RL: **PRP (Properties)**
(molar **absorptivity** of, .alpha.-amylase detn. in relation to)

L39 ANSWER 2 OF 2 HCAPLUS COPYRIGHT 2002 ACS
AN **1979:427029** HCAPLUS
DN **91:27029**
TI Determination of p-nitrophenol in water and waste waters
AU Bierwagen, Halina
CS Zakl. Chem. Biol. Wody, Inst. Meteorol. Gospodarki Wodnej, Warsaw, Pol.
SO Przem. Chem. (1979), 58(2), 109-10
CODEN: PRCHAB; ISSN: 0033-2496
DT Journal
LA Polish
CC 61-2 (Water)
Section cross-reference(s): 60, 79
AB A spectrophotometric method for detg. the content of p-nitrophenol [**100-02-7**] in water and wastewater is given, in which a sample is treated with NaOH to form a yellow compd. whose **absorption** is measured at **405 nm**.
ST nitrophenol detn water wastewater spectrophotometry
IT **100-02-7**, analysis
RL: ANT (Analyte); ANST (Analytical study)
(detn. of, in water and wastewater, spectrophotometry in)
IT 7732-18-5, analysis
RL: AMX (Analytical matrix); ANST (Analytical study)
(nitrophenol detn. in, spectrophotometry in)

=> d all tot

L42 ANSWER 1 OF 2 HCAPLUS COPYRIGHT 2002 ACS
AN **1992:98638** HCAPLUS
DN **116:98638**
TI High-performance liquid chromatography determination of phenols as

dabsylates
AU Dem'yanov, P. I.; Khimenes, M. P.; Petrosyan, V. S.
CS Mosk. Gos. Univ., Moscow, USSR
SO Zhurnal Fizicheskoi Khimii (1991), 65(10), 2808-15
CODEN: ZFKHA9; ISSN: 0044-4537
DT Journal
LA Russian
CC 80-6 (Organic Analytical Chemistry)
Section cross-reference(s): 61
GI



I

AB Phenols were detd. by normal- or reversed-phase HPLC after derivatization with dabsyl chloride (I). The detection limits were at the nanogram level. The method was used for detg. phenols in water. The molar **absorptivities** were >1.0 .times. 104 at **450 nm**
.

ST phenol detn liq chromatog dabsyl deriv; water analysis phenol HPLC; dimethylaminobenzenesulfonyl chloride reagent phenol detn; azobenzenesulfonyl chloride reagent phenol detn

IT Phenols, analysis
RL: ANT (Analyte); ANST (Analytical study)
(detn. of, by high-performance liq. chromatog., derivatization with dabsyl chloride for)

IT Chromatography, column and liquid
(high-performance, for detn. of phenols, derivatization with dabsyl chloride for)

IT Chromatography, column and liquid
(high-performance, reversed-phase, for detn. of phenols, derivatization with dabsyl chloride for)

IT 56512-49-3, Dabsyl chloride
RL: ANST (Analytical study)
(as derivatization agent for liq. chromatog. detn. of phenols)

IT 117079-65-9, MicroPak CN-10 138789-71-6, MicroPak NH2 10 138789-72-7, MicroPak Si 5 138789-73-8, MicroPak SP-C 18
RL: ANST (Analytical study)
(as stationary phase for liq. chromatog. detn. of phenols as dabsyl derivs.)

IT 7732-18-5, Water, analysis
RL: ANST (Analytical study)
(detn. of phenols in, by high-performance liq. chromatog.)

IT 51-28-5, 2,4-Dinitrophenol, analysis 87-86-5, Pentachlorophenol 88-06-2, 2,4,6-Trichlorophenol 88-75-5, 2-Nitrophenol 95-57-8, 2-Chlorophenol 95-65-8, 3,4-Dimethylphenol **100-02-7**, 4-Nitrophenol, analysis 106-44-5, 4-Methylphenol, analysis 106-48-9, 4-Chlorophenol 108-46-3, 3-Hydroxyphenol, analysis 108-95-2, Phenol, analysis 120-83-2, 2,4-Dichlorophenol 123-31-9, 4-Hydroxyphenol, analysis 150-76-5, 4-Methoxyphenol 504-15-4, 3-Hydroxy-5-methylphenol 569-42-6, 1,8-Dihydroxynaphthalene 575-44-0, 1,6-Dihydroxynaphthalene 615-58-7, 2,4-Dibromophenol 2150-47-2 102539-65-1, 1,3,5-Naphthalenetriol
RL: ANT (Analyte); ANST (Analytical study)
(detn. of, by high-performance liq. chromatog., derivatization with dabsyl chloride for)

L42 ANSWER 2 OF 2 HCAPLUS COPYRIGHT 2002 ACS
AN **1977:400604** HCAPLUS

DN **87:604**
TI Application of a.c.-polarography in a study of p-nitroanisole metabolism and its kinetic properties
AU Burgschat, Hans; Netter, Karl J.
CS Dep. Pharmacol., Univ. Mainz, Mainz, Ger.
SO J. Pharmacol. Exp. Ther. (1977), 201(2), 482-9
CODEN: JPETAB
DT Journal
LA English
CC 3-1 (Biochemical Interactions)
AB Phase sensitive a.c. polarog. was introduced for the simultaneous detn. of p-nitroanisole [100-17-4] and its metabolites p-nitrophenol [**100-02-7**] and p-nitrocatechol [3316-09-4] in kinetic studies with rat liver microsomes. The substrate p-nitroanisole disappeared rather rapidly when p-nitrophenol was formed. First traces of a 2nd oxidn. product, p-nitrocatechol, could not be detected until several min after the initiation of the reaction. This suggests that O-demethylation of p-nitroanisole is the primary reaction, which is followed by arom. ortho hydroxylation of p-nitrophenol. After incubation times longer than 15 min, appreciable amts. of p-nitrocatechol were found and showed optical **absorption** characteristics similar to those of p-nitrophenol (**absorption** max. at 440 **nm**). These kinetic expts. suggest that optical detn. of the primary metabolite during the initial reaction phase constituted a reliable measure of microsomal O-demethylation activity. Multiple forms of cytochrome P-**450** may be involved in the metab. of either p-nitroanisole or p-nitrophenol.
ST nitroanisole metab microsome; catechol anisole metab microsome
IT Microsome
(nitroanisole metab. by)
IT **100-02-7**, biological studies
RL: BIOL (Biological study)
(as nitroanisole metabolite, in microsomes)
IT 3316-09-4
RL: PRP (Properties)
(as nitroanisole metabolite, in microsomes)
IT 100-17-4
RL: BPR (Biological process); BIOL (Biological study); PROC (Process)
(metab. of, by microsomes, kinetics of)

=> d all tot

L50 ANSWER 1 OF 8 HCAPLUS COPYRIGHT 2002 ACS
AN **1998:502767** HCAPLUS
DN **129:183490**
TI Micro-flow injection analysis system
AU Ma, Lan; Higuchi, Keiro; Oshima, Mitsuko; Hattori, Takayasu; Motomizu, Shoji
CS Fac. Sci., Okayama Univ., Okayama, 700-8530, Japan
SO Journal of Flow Injection Analysis (1998), 15(1), 81-88
CODEN: JFIAEA; ISSN: 0911-775X
PB Nippon Bunseki Kagakkai Furo Injekushon Bunseki Kenkyu kondankai
DT Journal
LA Japanese
CC 79-2 (Inorganic Analytical Chemistry)
AB Micro-flow injection anal. system (.mu.FIA) was investigated. A double-cylinder and a double-plunger type micropumps were used. .mu.FIA conditions were examd. where 4-nitrophenol was used as an analyte and was detected at 400 **nm**. Optimized .mu.FIA conditions were as follows: delivery vol., 0.25 .mu.L per stroke; sample size, 20 .mu.L; inner diam. of reaction tubing, 0.1 mm; length of reaction tubing, 25 cm; the noise-level **absorbance** at the **absorbance** of 0.190 of 4-nitrophenol, 0.0001 **absorbance**, and the sample size for

minimized .mu.FIA was 7 .mu.L. The relative std. deviations (RSD) of a reproducibility test was less than 1% for 10 measurements.
ST micro flow injection analysis system
IT Analytical apparatus
Flow injection analysis
(micro-flow injection anal. system)
IT **100-02-7**, 4-Nitrophenol, analysis
RL: **ANT (Analyte)**; ANST (Analytical study)
(micro-flow injection anal. system)

L50 ANSWER 2 OF 8 HCAPLUS COPYRIGHT 2002 ACS
AN **1997:358231** HCAPLUS
DN **127:8806**
TI Analysis of phenolic compounds in industrial wastewater with high-performance liquid chromatography and post-column reaction detection
AU Fiehn, O.; Jekel, M.
CS Technical University of Berlin, Department of Water Quality Control, Sekr.KF4, Strasse des 17.Juni 135, Berlin, D-10623, Germany
SO Journal of Chromatography, A (1997), 769(2), 189-200
CODEN: JCRAEY; ISSN: 0021-9673
PB Elsevier
DT Journal
LA English
CC 61-3 (Water)
Section cross-reference(s): 60, 80
AB A method for the characterization of phenols after reversed-phase HPLC (RP-HPLC) sepn., even in highly complex matrixes is presented. Phenols can be detected at a wavelength of 500 **nm**, immediately after the addn. of N-methylbenzothiazole-2-hydrazone and Ce(NH4)2(SO4)3 in a strongly acidic medium, without heating or the use of a reaction coil. Visible spectra and intensities were independent of the water content using typical HPLC eluents. Thirty common hydroxyarom. compds. were studied, covering a wide range of substituents. Nearly all phenols showed their max. **absorbance** .apprx.500 **nm**. Limits of detection were 1-20 ng injected onto the column, except for nitrophenols. Aldehydes do not react under these conditions. Under neutral to basic conditions, interferences of thiophenols can be completely abolished. Arom. amines show strong hypsochromic shifts and decreases in **absorption** intensity. Using this method, >100 hydroxyarom. compds. could be detected in tannery wastewater.
ST phenolic compd industrial wastewater HPLC; high performance liq chromatog phenol wastewater
IT 7732-18-5, Water, analysis
RL: AMX (Analytical matrix); ANST (Analytical study)
(anal. of phenolic compds. in industrial wastewater with HPLC and post-column reaction detection)
IT 51-28-5, 2,4-Dinitrophenol, analysis 62-53-3, Aniline, analysis 65-49-6, 4-Amino-2-hydroxybenzoic acid 84-87-7, 1-Hydroxynaphthalene-4-sulfonic acid 87-86-5, Pentachlorophenol 89-86-1, 2,4-Dihydroxybenzoic acid 90-05-1, 2-Methoxyphenol 90-15-3, 1-Naphthol 90-20-0, 4-Amino-5-hydroxynaphthalene-2,7-disulfonic acid 91-60-1, 2-Naphthalenethiol 95-48-7, 2-Methylphenol, analysis 95-54-5, 1,2-Diaminobenzene, analysis 96-76-4, 2,4-Di-tert-butylphenol 98-54-4, 4-tert-Butylphenol 99-03-6, 3'-Aminoacetophenone 99-96-7, 4-Hydroxybenzoic acid, analysis **100-02-7**, 4-Nitrophenol, analysis 106-44-5, 4-Methylphenol, analysis 106-47-8, 4-Chloroaniline, analysis 108-39-4, 3-Methylphenol, analysis 108-73-6, 1,3,5-Trihydroxybenzene 108-95-2, Phenol, analysis 108-98-5, Thiophenol, analysis 120-80-9, 1,2-Dihydroxybenzene, analysis 123-30-8, 4-Aminophenol 123-31-9, 1,4-Dihydroxybenzene, analysis 128-37-0, 2,6-Di-tert-butyl-4-methylphenol, analysis 128-39-2, 2,6-Di-tert-butylphenol 134-32-7, 1-Naphthylamine 148-24-3, 8-Hydroxyquinoline, analysis 149-30-4, 2-Mercaptobenzothiazole

150-13-0, 4-Aminobenzoic acid 156-38-7, 4-Hydroxyphenylacetic acid
576-26-1, 2,6-Dimethylphenol 1570-64-5, 4-Chloro-2-methylphenol
2612-02-4, 2-Hydroxy-5-methoxybenzoic acid 7400-08-0, 4-Hydroxycinnamic
acid 7686-41-1, 5-Hydroxybenzothiazole 85895-99-4,
2-Hydroxynaphthalene-1,4-disulfonic acid
RL: **ANT (Analyte)**; ANST (Analytical study)
(anal. of phenolic compds. in industrial wastewater with HPLC and
post-column reaction detection)

L50 ANSWER 3 OF 8 HCAPLUS COPYRIGHT 2002 ACS
AN **1995:835793** HCAPLUS
DN **123:305682**
TI Determination of phenols by microbial peroxidase
AU Takenishi, Shigeyuki; Okazaki, Kozaburo; Watanabe, Yasuto
CS Osaka Munic. Tech. Res. Inst., Osaka, 536, Japan
SO Kagaku to Kogyo (Osaka, Japan) (1995), 69(9), 407-8
CODEN: KKGOAG; ISSN: 0368-5918
DT Journal
LA Japanese
CC 80-6 (Organic Analytical Chemistry)
Section cross-reference(s): 7
AB A soln. contg. phenols (25-500 .mu.g/0.5 mL) was incubated at 30.degree.
for 15 min. with a soln. of peroxidase from a strain of Oidiodendron
species, 4-aminopyrine as a coupler, and H2O2. Detn. of phenols was
performed by measuring the intensity of **absorbance** at 510
nm of the colored products. Sensitivity of the method was
compared with that of K ferrocyanide method (JIS K0102).
ST phenol detn colorimetry microbial peroxidase
IT Phenols, analysis
RL: ANT (Analyte); ANST (Analytical study)
(detn. of phenols by microbial peroxidase)
IT Spectrochemical analysis
(spectrophotometric, detn. of phenols by microbial peroxidase)
IT 88-75-5, o-Nitrophenol 95-48-7, o-Cresol, analysis 95-55-6,
o-Aminophenol 95-57-8, o-Chlorophenol **100-02-7**, p-Nitrophenol,
analysis 106-44-5, p-Cresol, analysis 106-48-9, p-Chlorophenol
108-43-0 108-95-2, Phenol, analysis 121-69-7, N,N-Dimethylaniline,
analysis 123-30-8, p-Aminophenol 554-84-7 591-27-5
RL: **ANT (Analyte)**; ANST (Analytical study)
(detn. of phenols by microbial peroxidase)
IT 83-07-8 7722-84-1, Hydrogen peroxide, uses 9003-99-0, Peroxidase
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(detn. of phenols by microbial peroxidase)

L50 ANSWER 4 OF 8 HCAPLUS COPYRIGHT 2002 ACS
AN **1980:185574** HCAPLUS
DN **92:185574**
TI Extraction of small amounts of nitrophenols from water by macroporous ion
exchangers
AU Korenman, Ya. I.; Alymova, A. T.; Taldykina, S. N.; Nurtdinova, L. D.
CS Voronezh Technol. Inst., Voronezh, USSR
SO Zh. Anal. Khim. (1979), 34(12), 2425-7
CODEN: ZAKHA8; ISSN: 0044-4502
DT Journal
LA Russian
CC 61-2 (Water)
Section cross-reference(s): 80
AB o- [88-75-5], m- [554-84-7], And p-nitrophenol [**100-02-7**]
were detd. in water by ion-exchange chromtog. and photometry. The
analytes were sorbed at pH 5 on KU-23 [9049-63-2] cation exchanger and
eluted with 5% NaCl-0.5% NaOH soln. The degree of extn. was .gtoreq.95%.
The eluate was treated with dil. NH4OH and the **absorbance** was
measured at 400 **nm** by a photometer. The detection limits were

at the level of the max. permissible limits for nitrophenols in waters (0.02-0.06 mg/L).
ST nitrophenol detn water chromatog photometry
IT 88-75-5 **100-02-7**, analysis 554-84-7
RL: **ANT (Analyte)**; ANST (Analytical study)
(detn. of, in water, extn. by macroporous ion exchangers in)
IT 9049-63-2 37380-51-1
RL: OCCU (Occurrence)
(in nitrophenols extn. from water for anal.)
IT 7732-18-5, analysis
RL: AMX (Analytical matrix); ANST (Analytical study)
(nitrophenols detn. in, extn. by macroporous ion exchangers in)

L50 ANSWER 5 OF 8 HCAPLUS COPYRIGHT 2002 ACS
AN **1977:589127** HCAPLUS
DN **87:189127**
TI Detection and photometric determination of 126 phenolic compounds in water using four group-specific reagents
AU Koppe, P.; Dietz, F.; Traud, J.; Ruebelt, C.
CS Chem. Biol. Lab., Ruhrverb., Essen, Ger.
SO Fresenius' Z. Anal. Chem. (1977), 285(1), 1-19
CODEN: ZACFAU
DT Journal
LA German
CC 61-2 (Water)
Section cross-reference(s): 80
AB P-nitroaniline (I) [100-01-6], sulfanilic acid (II) [121-57-3], 4-aminoantipyrene (III) [83-07-8], and 3-methylbenzothiazolin-2-ylhydrazine (IV) [64531-66-4] were used as group-specific reagents in the detection of mono- and polyhydric phenols in water. I, III, and IV generally gave **absorption** with the phenol complexes at 492 **nm**; II at 436 **nm**.
ST phenol detn water; photometric detn phenol water; nitroaniline phenol photometric detn; aminoantipyrene phenol photometric detn; methylbenzothiazolylhydrazine phenol photometric detn
IT Phenols, analysis
RL: ANT (Analyte); ANST (Analytical study)
(detn. of, in water, by photometry)
IT 51-28-5, analysis 51-35-4 56-53-1 58-90-2 59-50-7 60-18-4, analysis 60-27-5 69-89-6 69-93-2, analysis 70-30-4 80-46-6 83-34-1 87-65-0 87-66-1 87-86-5 88-06-2 88-18-6 88-60-8 88-69-7 88-75-5 88-89-1 89-64-5 89-83-8 90-00-6 90-02-8, analysis 90-05-1 90-15-3 90-43-7 92-69-3 93-51-6 94-13-3 95-48-7, analysis 95-57-8 95-65-8 95-77-2 95-87-4 95-95-4 96-76-4 97-23-4 97-54-1 98-27-1 98-28-2 98-29-3 98-54-4 99-96-7, analysis **100-02-7**, analysis 100-66-3, analysis 100-84-5 101-53-1 104-40-5 104-93-8 105-67-9 106-44-5, analysis 106-48-9 108-39-4, analysis 108-43-0 108-46-3, analysis 108-68-9 108-73-6 108-95-2, analysis 119-33-5 120-37-6 120-72-9, analysis 120-80-9, analysis 120-83-2 121-00-6 121-33-5 123-31-9, analysis 128-37-0, analysis 128-39-2 134-96-3 135-19-3, analysis 136-77-6 140-66-9 150-30-1 329-71-5 367-12-4 371-41-5 372-20-3 495-69-2 496-78-6 499-75-2 526-75-0 527-54-8 527-60-6 528-21-2 533-73-3 534-52-1 554-84-7 573-56-8 576-24-9 576-26-1 578-58-5 583-78-8 585-34-2 605-69-6 615-74-7 619-08-9 620-17-7 645-56-7 697-82-5 698-71-5 700-38-9 716-96-1 933-75-5 1073-72-9 1420-07-1 1470-79-7 1570-64-5 1879-09-0 2042-14-0 2219-82-1 2409-55-4 2423-71-4 2581-34-2 3120-74-9 3228-04-4 4371-31-7 5374-06-1 5428-54-6 7408-66-4 10568-38-4 13347-42-7 23050-96-6 25429-37-2 28994-41-4
RL: **ANT (Analyte)**; ANST (Analytical study)
(detn. of, in water, by photometry)
IT 7732-18-5, analysis

RL: ANST (Analytical study)
(phenolic compd. detn. in, by photometry)
IT 83-07-8 121-57-3 64531-66-4 100-01-6, uses and miscellaneous
RL: OCCU (Occurrence)
(phenolic compds. detn. by, in water, by photometry)

L50 ANSWER 6 OF 8 HCAPLUS COPYRIGHT 2002 ACS
AN **1973:119789** HCAPLUS
DN **78:119789**
TI New method for the purification and determination of urinary p-nitrophenol
AU Cenci, P.; Cavazzini, G.
CS Ist. Ig., Univ. Ferrara, Ferrara, Italy
SO Med. Lav. (1972), 63(1-2), 62-7
CODEN: MELAAD
DT Journal
LA Italian
CC 4-1 (Toxicology)
Section cross-reference(s): 5
AB A spectrophotometric method is presented for the detection and quantitation of urinary p-nitrophenol (PNP) [**100-02-7**], the presence of which indicates exposure to organophosphate pesticides. Following hydrolysis with HCl, the sample is extd. with 1:1 Et ether: petroleum ether and the org. layer concd. by evapn. PNP is sepd. from the residue by silica gel chromatog., using C6H12:CHCl3:EtOH (4:2:1) in the liq. phase. **Absorption** is detd. in alk. soln. at 400 **nm** and confirmed in acid soln. at 320 **nm**. The method is sensitive to 0.025 ppm PNP.
ST nitrophenol chromatog urine; pesticide intoxication chromatog urine; organophosphate intoxication chromatog urine
IT Urine analysis
(nitrophenol detn. in)
IT **100-02-7**
RL: **ANT (Analyte)**; ANST (Analytical study)
(detn. of, in urine)

L50 ANSWER 7 OF 8 HCAPLUS COPYRIGHT 2002 ACS
AN **1972:469845** HCAPLUS
DN **77:69845**
TI Determination of phenol and p-nitrophenol in a mixture by ultraviolet **absorption** spectrophotometry
AU Simionovici, Roxandra; Dimofte, Lidia
CS Inst. Cercet. Chim. Farm., Bucharest, Rom.
SO Lucr. Conf. Nat. Chim. Anal., 3rd (1971), Volume 2, 75-9 Publisher: Inst. Cent. Cercet. Chim., Bucharest, Rom.
CODEN: 24UNAT
DT Conference
LA Romanian
CC 80-6 (Organic Analytical Chemistry)
AB Phenol and p-nitrophenol, 5 .mu.g/ml of each, were detd. in a mixt. by dissoln. in 0.1N NaOH and measuring the **absorbance** of the soln. at 200 and 400 **nm** vs. 0.1N NaOH as a blank. The method can be used in the control of nitrosation reactions.
ST phenol detn presence nitrophenol; nitrosation phenol analytical control; photometry phenol nitrophenol
IT Nitrosation
(of phenol, analytical control of)
IT 108-95-2, analysis
RL: ANT (Analyte); ANST (Analytical study)
(detn. of, in presence of nitrophenol)
IT **100-02-7**
RL: **ANT (Analyte)**; ANST (Analytical study)
(detn. of, in presence of phenol)

L50 ANSWER 8 OF 8 HCAPLUS COPYRIGHT 2002 ACS
AN **1972:442927** HCAPLUS
DN **77:42927**
TI Analytical determination of the (o,m,p)nitrophenol isomers of 2,4-dinitro- and 2,4,6-trinitrophenol
AU Thielemann, H.
CS Halberstadt, E. Ger.
SO Sci. Pharm. (1972), 40(1), 39-40
CODEN: SCPHA4
DT Journal
LA German
CC 80-6 (Organic Analytical Chemistry)
AB To det. mononitrophenols or 2,4-dinitrophenol, the sample was treated with diazotized sulfanilic acid and Na2CO3, and, after 60 min, the **absorbance** was measured at 470 **nm** vs. a reagent blank. Picric acid can be detd. directly without pretreatment.
ST nitrophenol detn; picric acid detn; photometry nitrophenol detn
IT 51-28-5, analysis 88-75-5 88-89-1 **100-02-7** 554-84-7
RL: **ANT (Analyte)**; ANST (Analytical study)
(detn. of, photometric)

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(FILE 'HOME' ENTERED AT 09:48:35 ON 10 OCT 2002)
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FILE 'REGISTRY' ENTERED AT 09:48:46 ON 10 OCT 2002
E 4-NITROPHENOL/CN
L1 1 S E3

FILE 'HCAPLUS' ENTERED AT 09:49:05 ON 10 OCT 2002
L2 1680 S L1 (L) PRP/RL
L3 398 S L1 AND ABSORP?
L4 705 S L1 AND ADSORP?
L5 479 S L1 AND ADSORB?
L6 192 S L1 AND ABSORB?
L7 1286 S L3-L6
L8 320 S L2 AND L7
L9 65 S L8 AND NITROPHENOL/TI
L10 49906 S ALKALIN?(L)?PHOSPHATASE?
L11 0 S ?ALKALINPHOSPHATASE?

FILE 'REGISTRY' ENTERED AT 09:51:59 ON 10 OCT 2002
L12 1 S 9001-78-9

FILE 'HCAPLUS' ENTERED AT 09:52:05 ON 10 OCT 2002
L13 28811 S L12
L14 22049 S L1 OR NITROPHENOL OR NITRO PHENOL
L15 287 S L13,L10 AND L14
L16 5 S L15 AND L2
L17 16 S L15 AND L7
L18 18 S L16,L17

FILE 'REGISTRY' ENTERED AT 09:55:12 ON 10 OCT 2002

FILE 'HCAPLUS' ENTERED AT 09:55:23 ON 10 OCT 2002
E WEISHEIT R/AU
L19 9 S E3,E4
E TRIEBE W/AU
E TRIEBER W/AU
E TREIBER W/AU
L20 8 S E3,E5

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                E DE98-19846300/AP,PRN
L21           1 S E3,E4
                E WO99-EP7366/AP,PRN
L22           1 S E3,E4
L23           2 S L11,L13 AND L19-L22
L24           2 S L1,L10 AND L19-L22
L25           2 S L23,L24
                E "UV AND VISIBILE SPECTROSCOPY"/CT
                E "UV AND VISIBLE SPECTROSCOPY"/CT
                E E3+ALL
L26        9165 S E3-E5,E2+NT
L27       34541 S E37+NT OR E38+NT
L28         109 S L14 AND L26,L27
L29           1 S L28 AND L10,L13
L30          34 S L2 AND L28
L31          27 S L7 AND L28
L32          51 S L31,L30 NOT L18
                SEL DN AN 18 21 30
L33           3 S L32 AND E1-E9
L34           4 S L29,L33
L35           6 S L25,L34
L36         144 S L7,L2,L8 AND NM
L37         130 S L36 NOT L18,L35
L38          24 S L37 AND (401 OR 402 OR 403 OR 404 OR 405 OR 406 OR 407 OR 408
                SEL DN AN 16 23
L39           2 S L38 AND E10-E15
L40          11 S L37 AND (431 OR 432 OR 433 OR 444 OR 445 OR 446 OR 447 OR 448
L41          10 S L40 NOT L38
                SEL DN AN 5 8
L42           2 S E16-E21 AND L41
L43        1034 S L1 (L) ANT/RL
L44         242 S L43 AND L2,L7,L8
L45           3 S L44 AND 450
L46           8 S L44 AND L26,L27
L47           0 S L46 NOT L32,L38,L40,L45,L18
L48          40 S L44 AND NM
L49          27 S L48 NOT L32,L38,L40,L45,L18
                SEL DN AN 8 13 17 22 23 24 25 26
L50           8 S L49 AND E22-E45
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WEST Search History

DATE: Thursday, October 10, 2002

Set Name side by side	Query	Hit Count	Set Name result set
DB=USPT,PGPB,JPAB,EPAB,DWPI,TDBD; PLUR=YES; OP=OR			
L6	(ralph or R?) same weisheit.in.	11	L6
L5	L2 same (wolfgang or w?)	9	L5
L4	ralph same weisheit.in.	11	L4
L3	L2 same wolfgang	9	L3
L2	treiber.in.	529	L2
L1	weisheit.au.	0	L1

END OF SEARCH HISTORY

WEST

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Search Results - Record(s) 1 through 10 of 11 returned.

☐ 1. Document ID: US 6207459 B1

L4: Entry 1 of 11 File: USPT Mar 27, 2001

US-PAT-NO: 6207459
DOCUMENT-IDENTIFIER: US 6207459 B1

TITLE: Method for the analysis of medical samples containing haemoglobin

DATE-ISSUED: March 27, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Weisheit; Ralph	Weilheim			DE
Schellong; Lieselotte	Tutzing			DE

US-CL-CURRENT: 436/66; 356/39, 436/71, 436/84, 436/86, 436/88

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw Desc | Image

☐ 2. Document ID: US 5763281 A

L4: Entry 2 of 11 File: USPT Jun 9, 1998

US-PAT-NO: 5763281
DOCUMENT-IDENTIFIER: US 5763281 A

TITLE: Method and reagent for the determination of iron

DATE-ISSUED: June 9, 1998

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Weisheit; Ralph	Weilheim			DE
Luz; Renate	Tutzing			DE

US-CL-CURRENT: 436/74; 422/56, 422/61, 436/166, 436/174, 436/175, 436/43, 436/73, 436/84

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw Desc | Image

☐ 3. Document ID: JP 07218511 A

L4: Entry 3 of 11 File: JPAB Aug 18, 1995

PUB-NO: JP407218511A
DOCUMENT-IDENTIFIER: JP 07218511 A
TITLE: METHOD FOR MEASURING IRON AND ITS REAGENT

PUBN-DATE: August 18, 1995

INVENTOR-INFORMATION:

NAME	COUNTRY
WEISHEIT, RALPH	
LUZ, RENATE	

INT-CL (IPC): G01 N 33/90; G01 N 33/52

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw Desc | Image

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☐ 4. Document ID: EP 1052512 A2

L4: Entry 4 of 11 File: EPAB Nov 15, 2000

PUB-NO: EP001052512A2
DOCUMENT-IDENTIFIER: EP 1052512 A2
TITLE: Method and partial reagent for the determination of iron

PUBN-DATE: November 15, 2000

INVENTOR-INFORMATION:

NAME	COUNTRY
WEISHEIT, RALPH DR	DE
LUZ, RENATE	DE

INT-CL (IPC): G01 N 33/84; G01 N 33/52
EUR-CL (EPC): G01N033/84

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw Desc | Image

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☐ 5. Document ID: WO 22162 A1

L4: Entry 5 of 11 File: EPAB Apr 20, 2000

PUB-NO: WO000022162A1
DOCUMENT-IDENTIFIER: WO 22162 A1
TITLE: METHOD FOR DETERMINING ALKALINE PHOSPHATASE AND ELIMINATING HAEMOGLOBIN DISTURBANCES

PUBN-DATE: April 20, 2000

INVENTOR-INFORMATION:

NAME	COUNTRY
WEISHEIT, RALPH	DE
TREIBER, WOLFGANG	DE

INT-CL (IPC): C12 Q 1/42
EUR-CL (EPC): C12Q001/42

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC
Draw Desc | Image

☐ 6. Document ID: WO 22161 A1

L4: Entry 6 of 11 File: EPAB Apr 20, 2000

PUB-NO: WO000022161A1
DOCUMENT-IDENTIFIER: WO 22161 A1
TITLE: METHOD FOR DETERMINING ALKALINE PHOSPHATASE

PUBN-DATE: April 20, 2000

INVENTOR-INFORMATION:

NAME	COUNTRY
WEISHEIT, RALPH	DE
TREIBER, WOLFGANG	DE

INT-CL (IPC): C12 Q 1/42
EUR-CL (EPC): C12Q001/42

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC
Draw Desc | Image

☐ 7. Document ID: DE 19622091 A1

L4: Entry 7 of 11 File: EPAB Jan 8, 1998

PUB-NO: DE019622091A1
DOCUMENT-IDENTIFIER: DE 19622091 A1
TITLE: Accurate measurement of albumin in solution also containing haemoglobin

PUBN-DATE: January 8, 1998

INVENTOR-INFORMATION:

NAME	COUNTRY
WEISHEIT, RALPH DIPL CHEM	DE

INT-CL (IPC): G01 N 33/50; G01 N 33/72; G01 N 21/75; C07 K 14/76
EUR-CL (EPC): G01N033/487; G01N033/68

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC
Draw Desc | Image

☑ 8. Document ID: WO 9745733 A1

L4: Entry 8 of 11 File: EPAB Dec 4, 1997

PUB-NO: WO009745733A1
DOCUMENT-IDENTIFIER: WO 9745733 A1
TITLE: PROCESS TO ELIMINATE HAEMOCLOBIN ERRORS WHEN ANALYSING MEDICAL SAMPLES

PUBN-DATE: December 4, 1997

INVENTOR-INFORMATION:

NAME	COUNTRY
WEISHEIT, RALPH	DE
PFITSCHLER, ELKE	DE

INT-CL (IPC): G01 N 33/52; G01 N 33/70; G01 N 33/72; C12 Q 1/00; C12 Q 1/32
EUR-CL (EPC): C12Q001/00; C12Q001/32, G01N033/52 , G01N033/70 , G01N033/72

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC
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☑ 9. Document ID: WO 9745732 A1

L4: Entry 9 of 11 File: EPAB Dec 4, 1997

PUB-NO: WO009745732A1
DOCUMENT-IDENTIFIER: WO 9745732 A1
TITLE: PROCESS FOR THE ANALYSIS OF MEDICAL SAMPLES CONTAINING HAEMOGLOBIN

PUBN-DATE: December 4, 1997

INVENTOR-INFORMATION:

NAME	COUNTRY
WEISHEIT, RALPH	DE
SCHELLONG, LIESELOTTE	DE

INT-CL (IPC): G01 N 33/52; G01 N 33/72; G01 N 33/68; G01 N 33/84
EUR-CL (EPC): G01N033/52; G01N033/68, G01N033/72 , G01N033/84

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC
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☐ 10. Document ID: WO 9745728 A1

L4: Entry 10 of 11 File: EPAB Dec 4, 1997

PUB-NO: WO009745728A1
DOCUMENT-IDENTIFIER: WO 9745728 A1
TITLE: PROCESS TO ELIMINATE HAEMOGLOBIN ERRORS DURING THE DETERMINATION OF ALBUMIN

PUBN-DATE: December 4, 1997

INVENTOR-INFORMATION:

NAME	COUNTRY
WEISHEIT, RALPH	DE
MASTERS, BARBARA	US

INT-CL (IPC): G01 N 33/487; G01 N 33/68
EUR-CL (EPC): G01N033/487; G01N033/68

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC | Draw. Desc | Image

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